

Fig.1

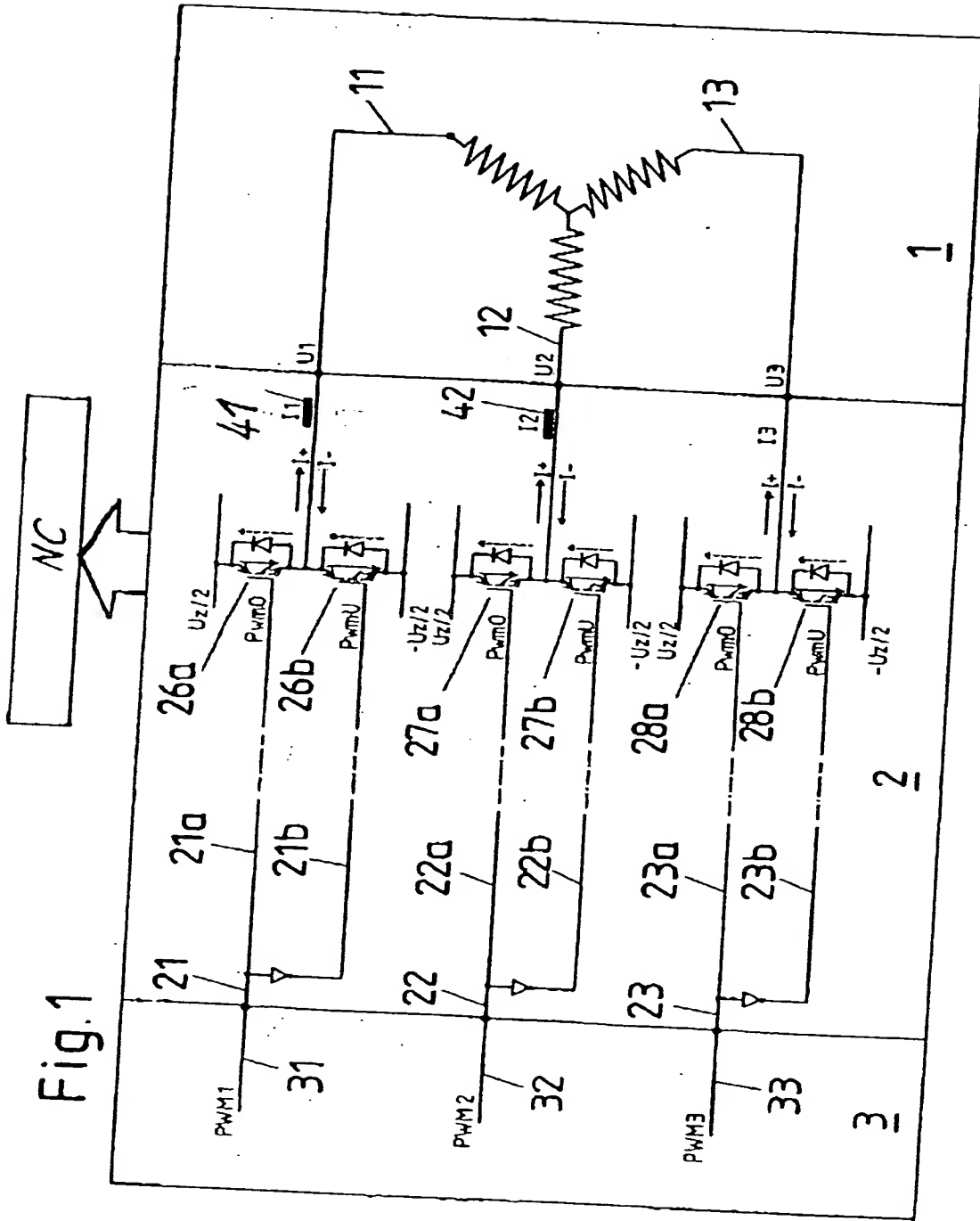


Fig. 2

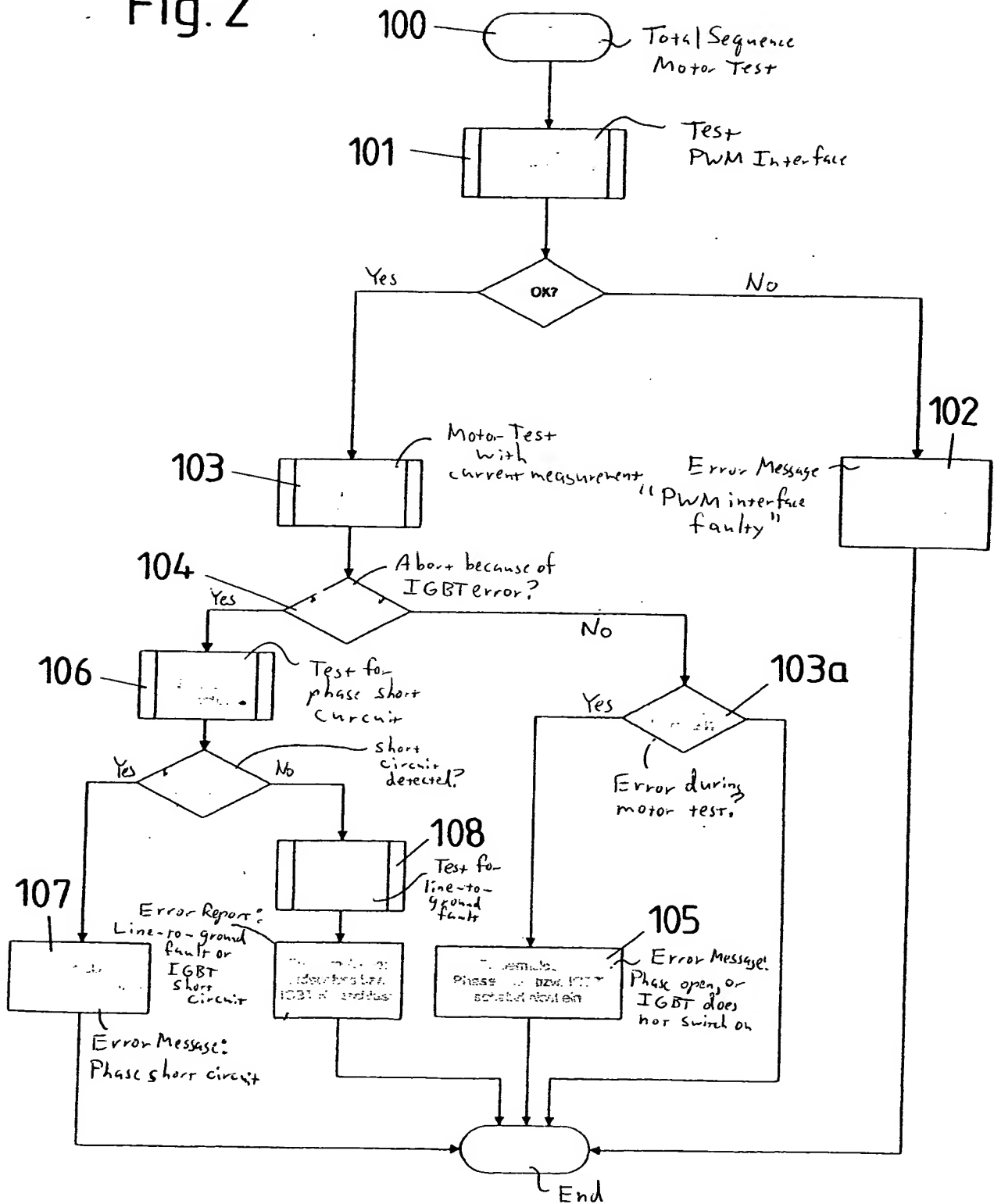


Fig. 3

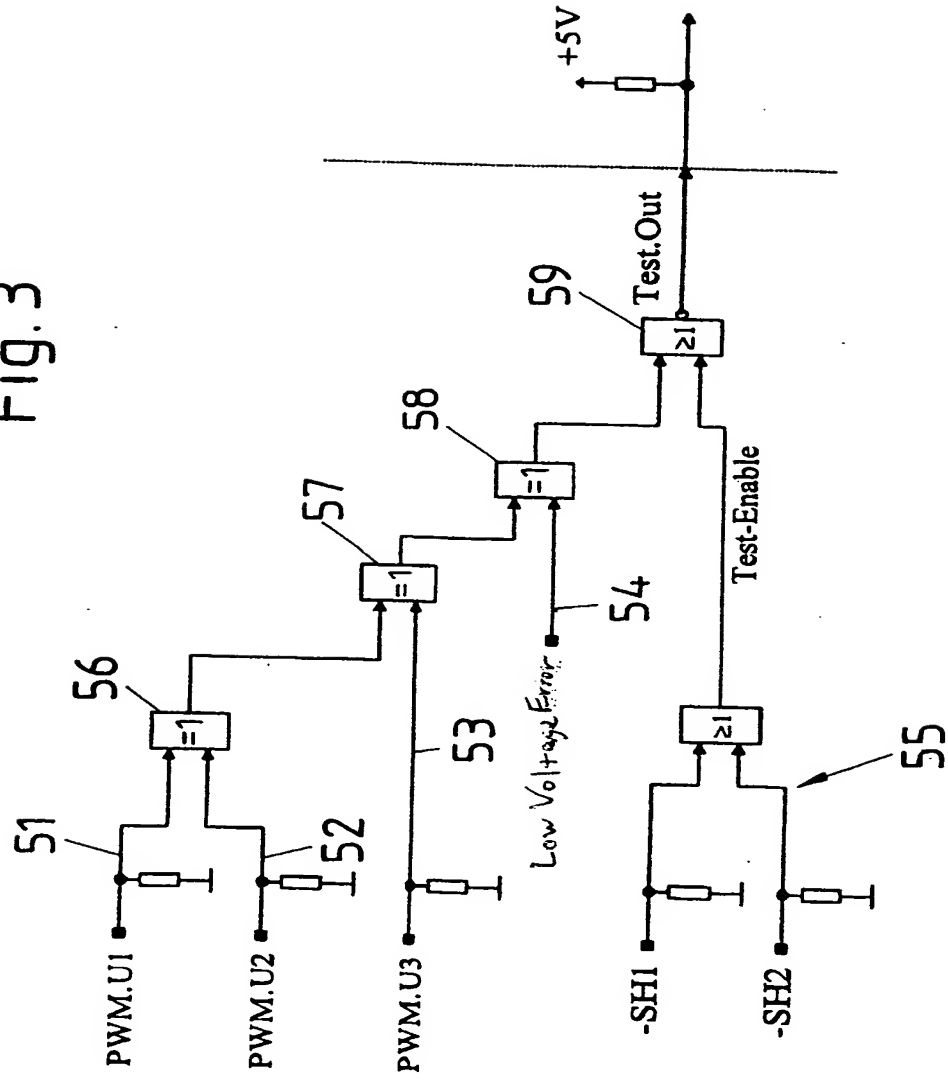


Fig. 4

PWM - Signals

PWM1: 0 1 0 0 1 0 1 1

PWM2: 0 0 1 0 1 1 0 1

PWM3: 0 0 0 1 1 1 1 0

Test. Out:

Low Voltages OK

1, 0, 0, 0, 0, 1, 1, 1 // all OK

1, 1, 0, 0, 1, 1, 0, 0 // PWM.U1 Stuck on 0

1, 0, 1, 0, 1, 0, 1, 0 // PWM.U2 Stuck on 0

1, 0, 0, 1, 1, 0, 0, 1 // PWM.U3 Stuck on 0

1, 1, 1, 0, 0, 0, 0, 1 // PWM.U1 = PWM.U2

1, 0, 1, 1, 0, 1, 0, 0 // PWM.U2 = PWM.U3

1, 1, 0, 1, 0, 0, 1, 0 // PWM.U1 = PWM.U3

1, 0, 0, 0, 0, 0, 0, 0 // PWM.U1 = PWM.U2 = PWM.U3

Low Voltages Faulty

0, 1, 1, 1, 1, 0, 0, 0 // PWM Signals OK

0, 0, 1, 1, 0, 0, 1, 1 // PWM.U1 Stuck on 0 + Low voltage

0, 1, 0, 1, 0, 1, 0, 1 // PWM.U2 Stuck on 0 + Low voltage

0, 1, 1, 0, 0, 1, 1, 0 // PWM.U3 Stuck on 0 + Low voltage

0, 0, 0, 1, 1, 1, 1, 0 // PWM.U1 = PWM.U2 + Low voltage

0, 1, 0, 0, 1, 0, 1, 1 // PWM.U2 = PWM.U3 + Low voltage

0, 0, 1, 0, 1, 1, 0, 1 // PWM.U1 = PWM.U3 + Low voltage

0, 1, 1, 1, 1, 1, 1, 1 // PWM.U1 = PWM.U2 = PWM.U3 + Low voltage

general errors

0, 0, 0, 0, 0, 0, 0, 0 // SH1 or SH2 not "0"

1, 1, 1, 1, 1, 1, 1, 1 // Test - Output open

Fig.5

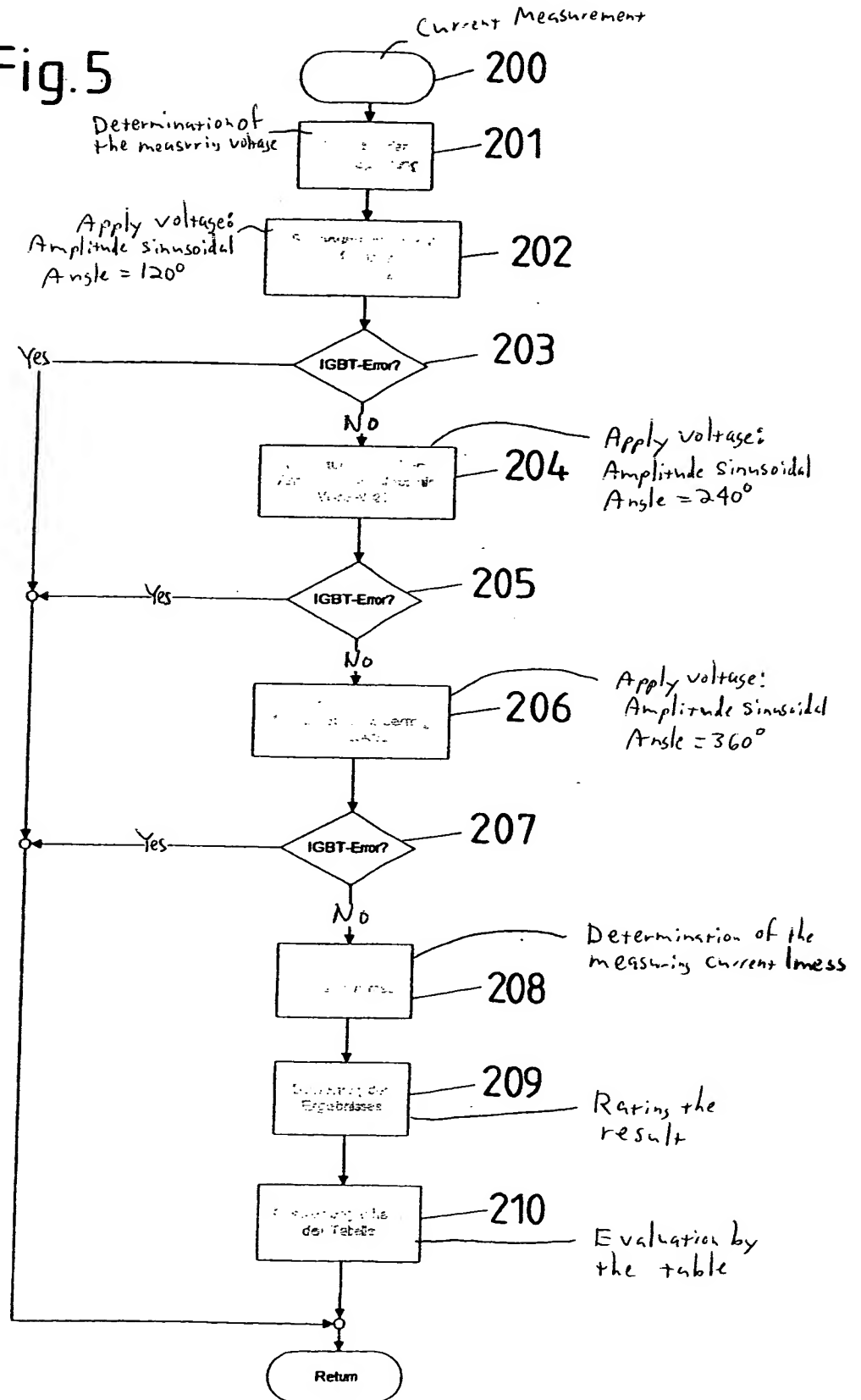
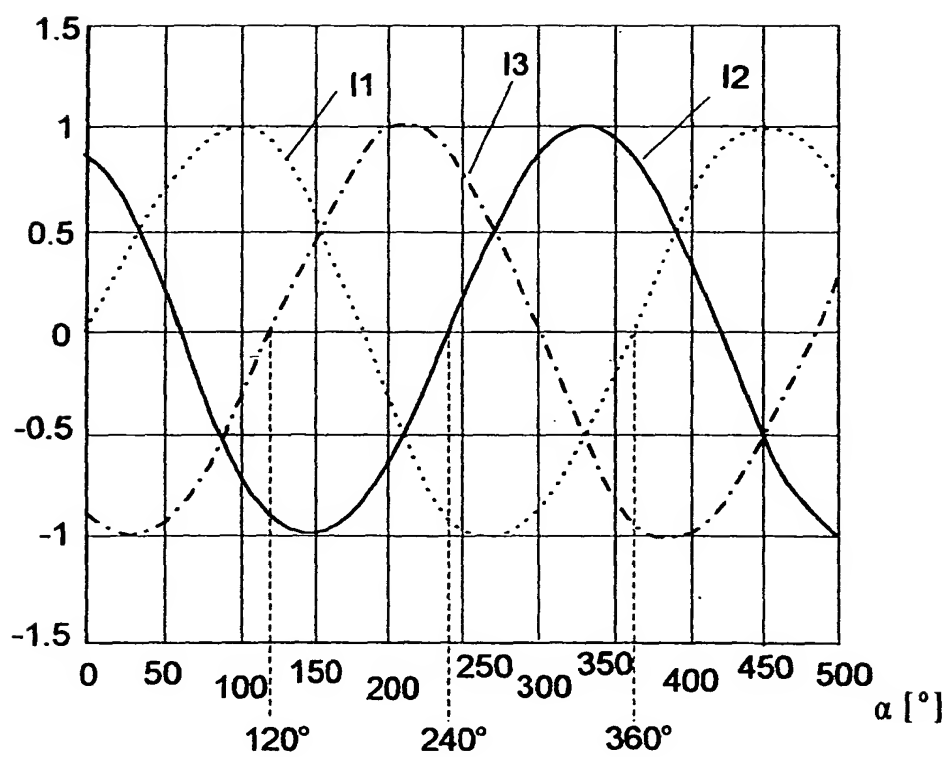


Fig. 6



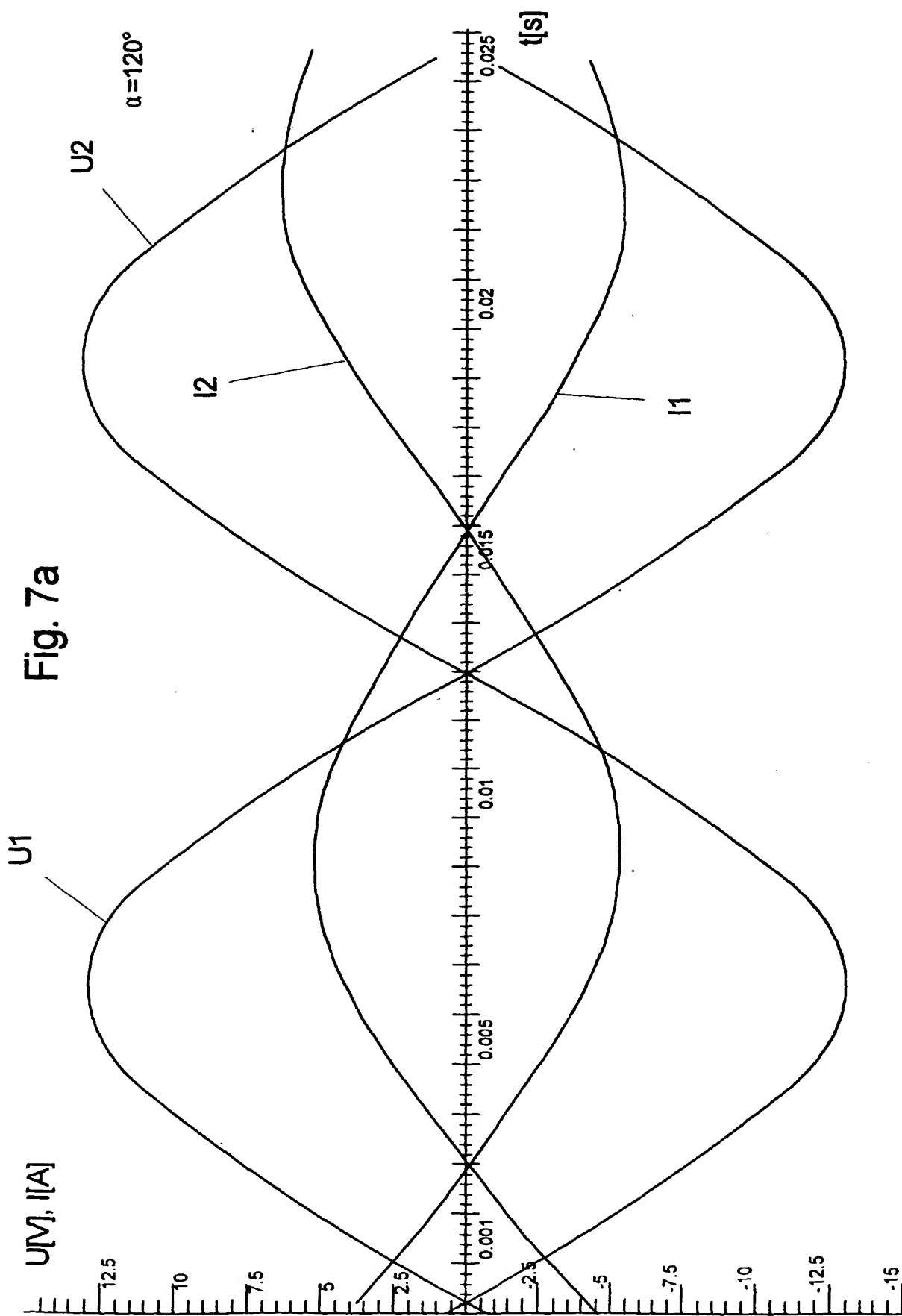


Fig. 7a

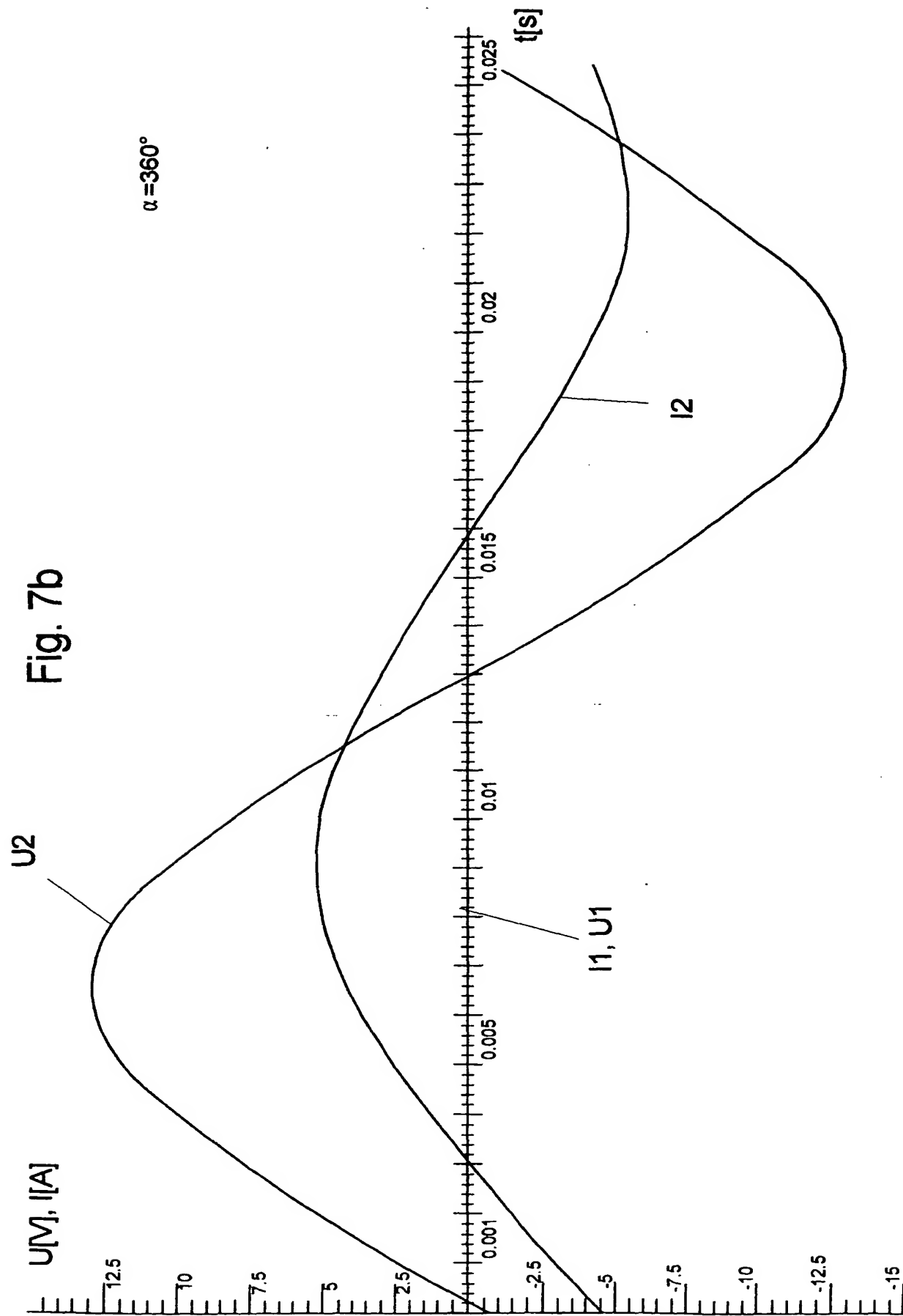
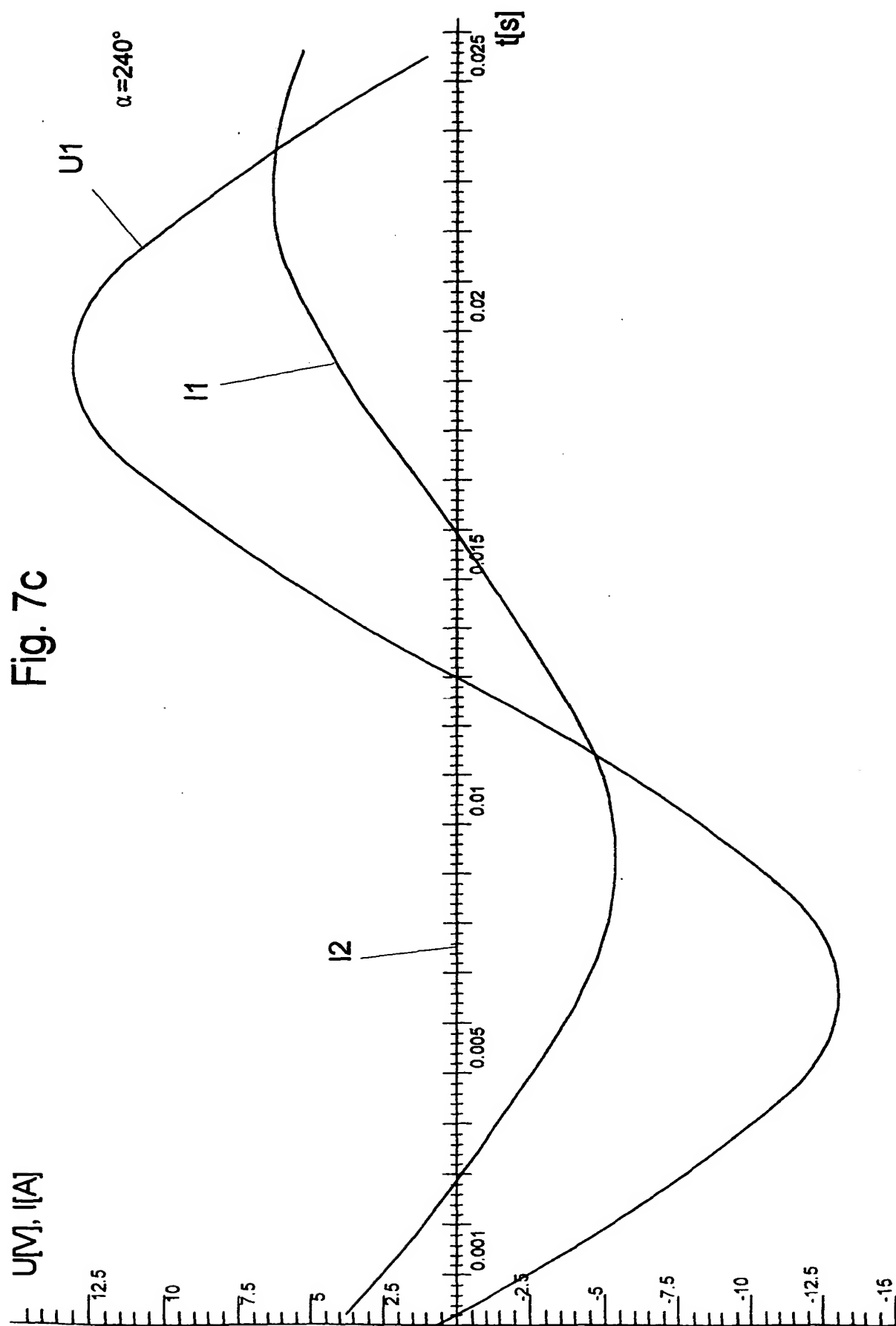
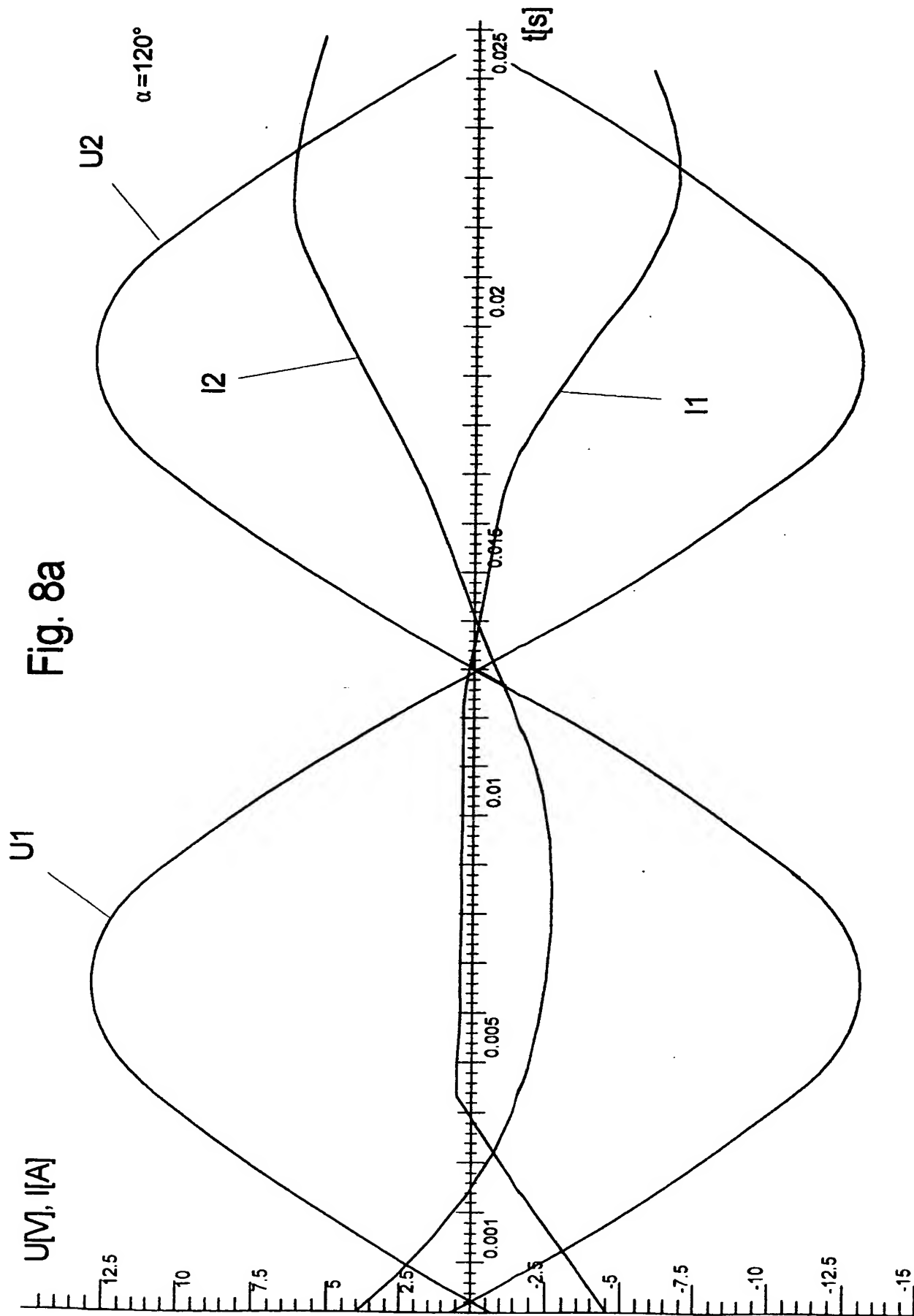


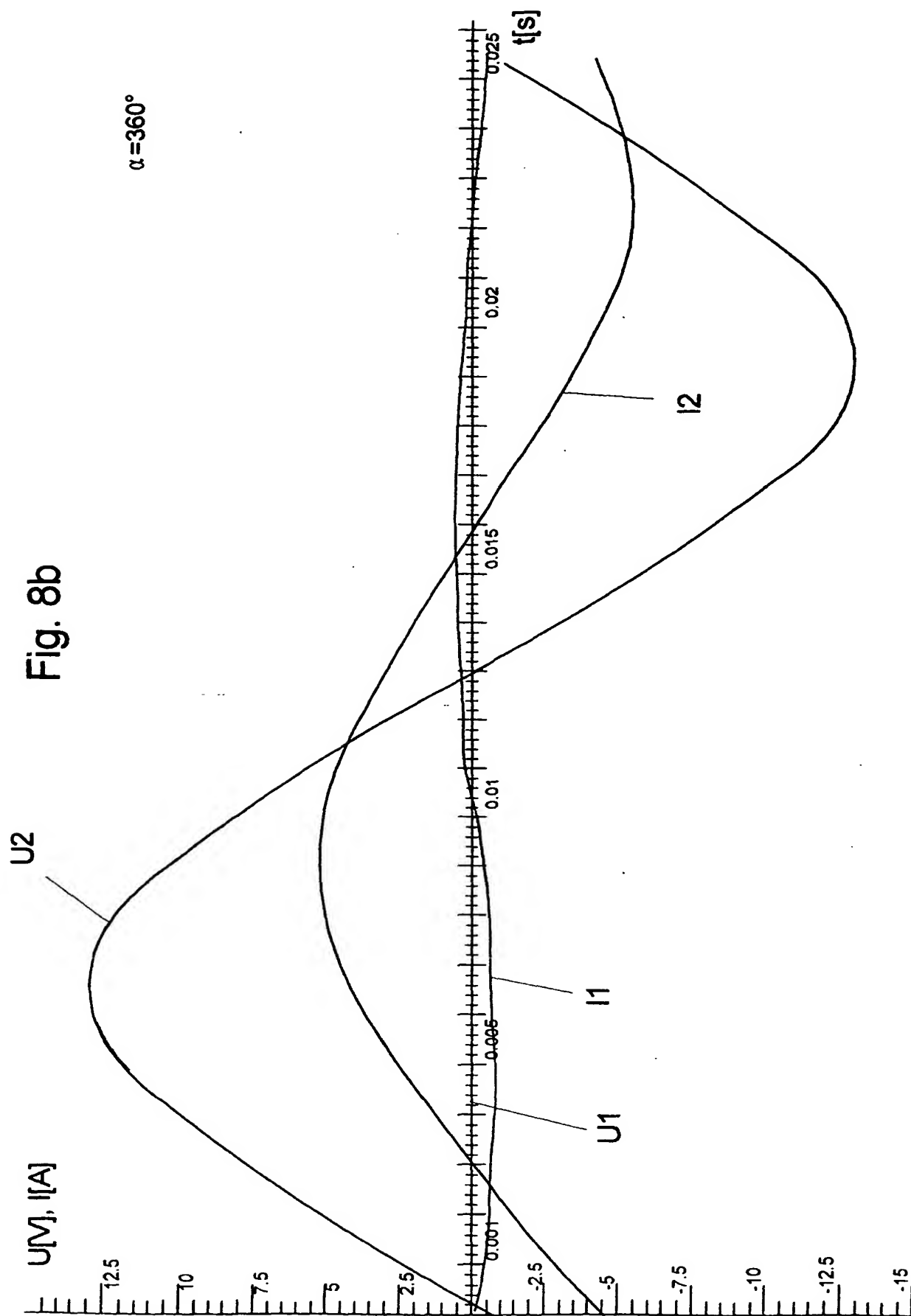
Fig. 7b

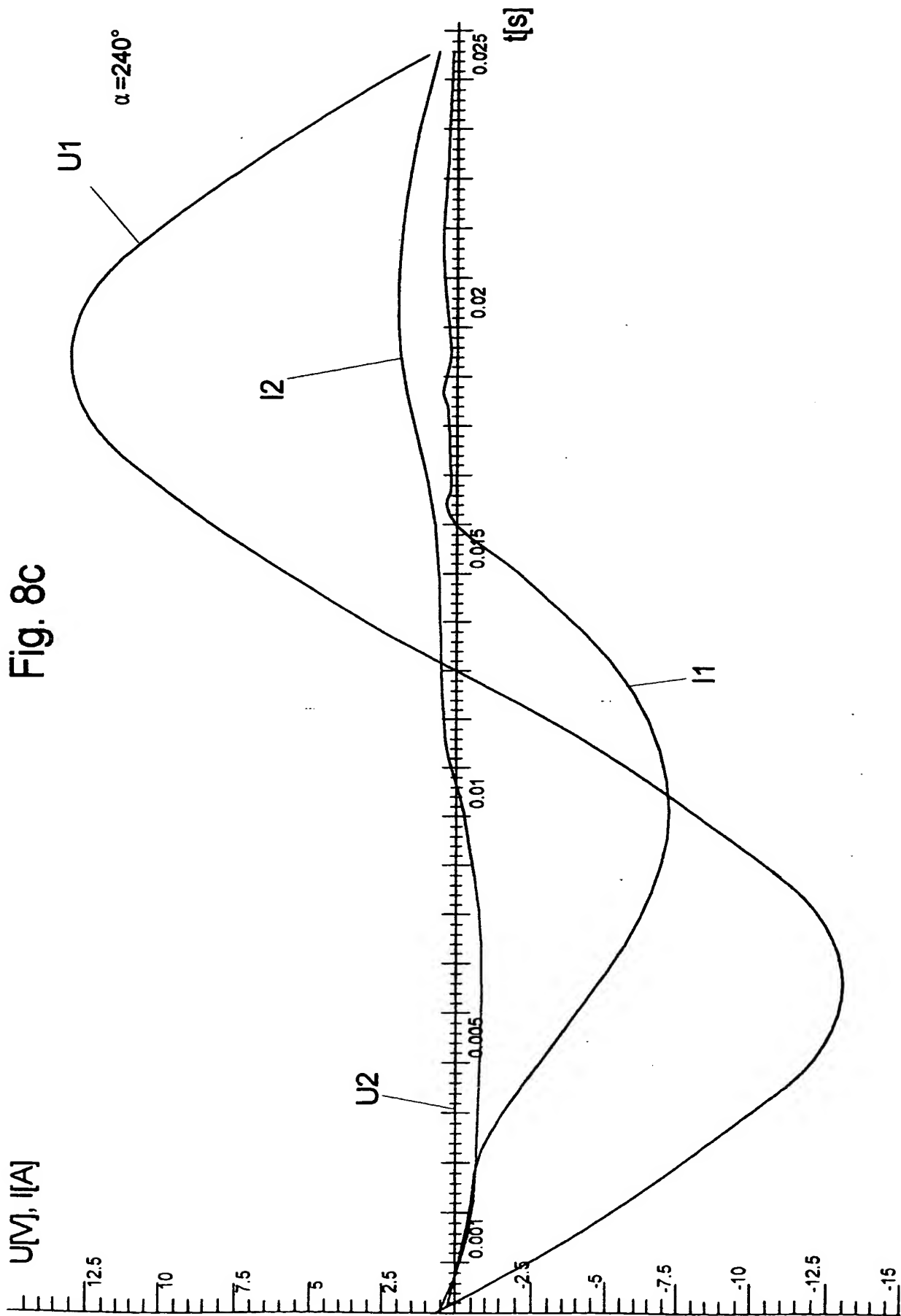
$\alpha = 360^\circ$

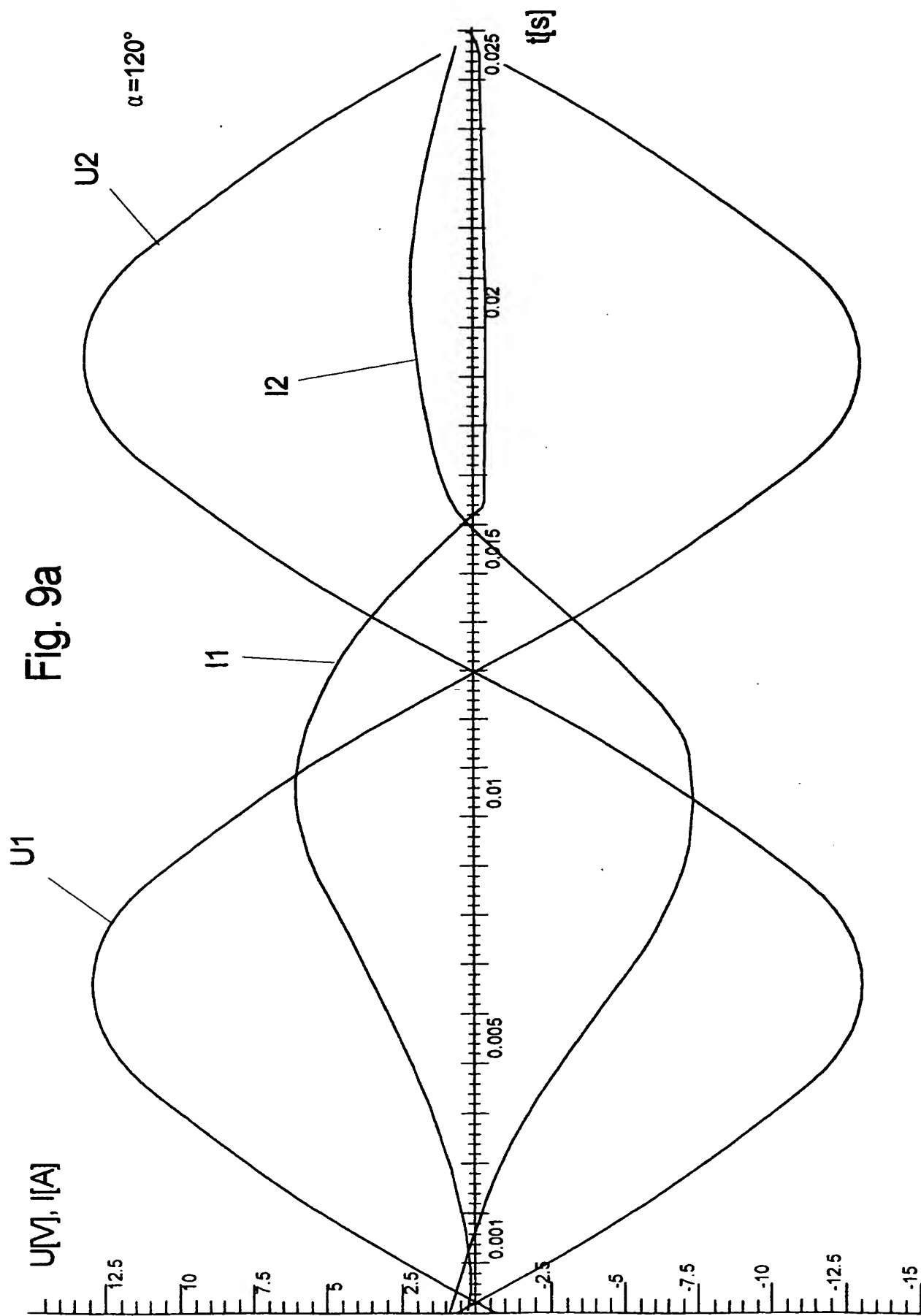












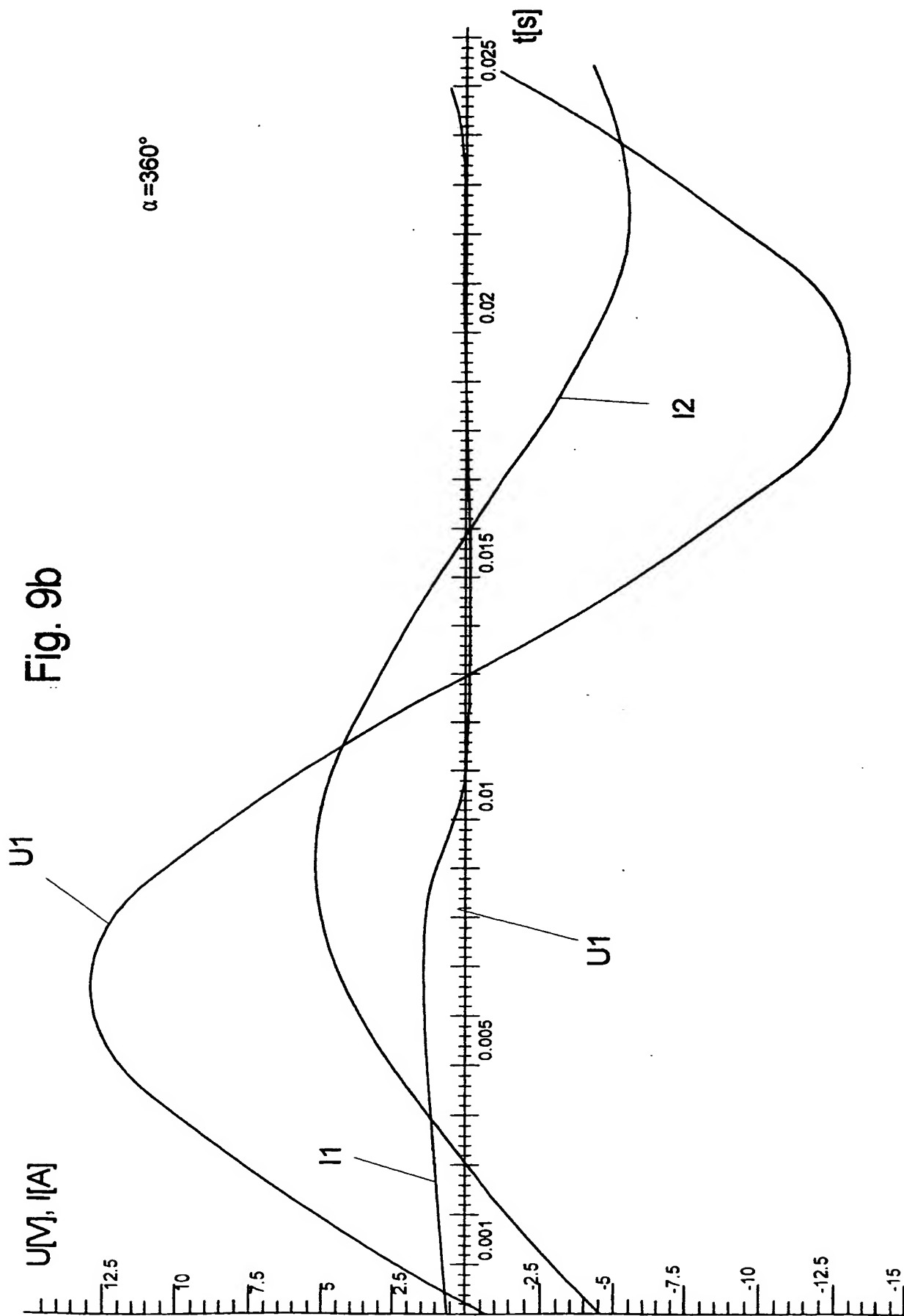
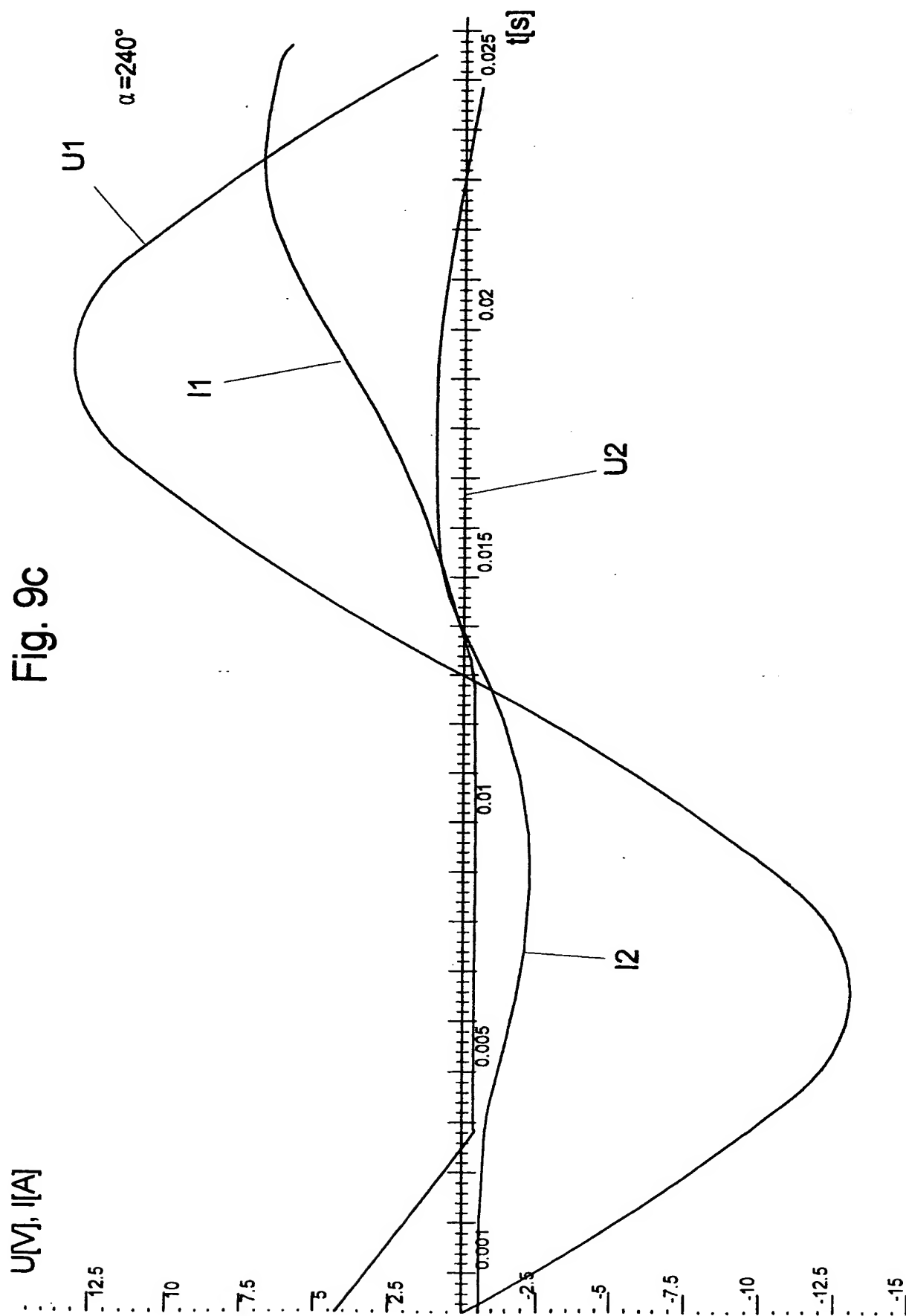
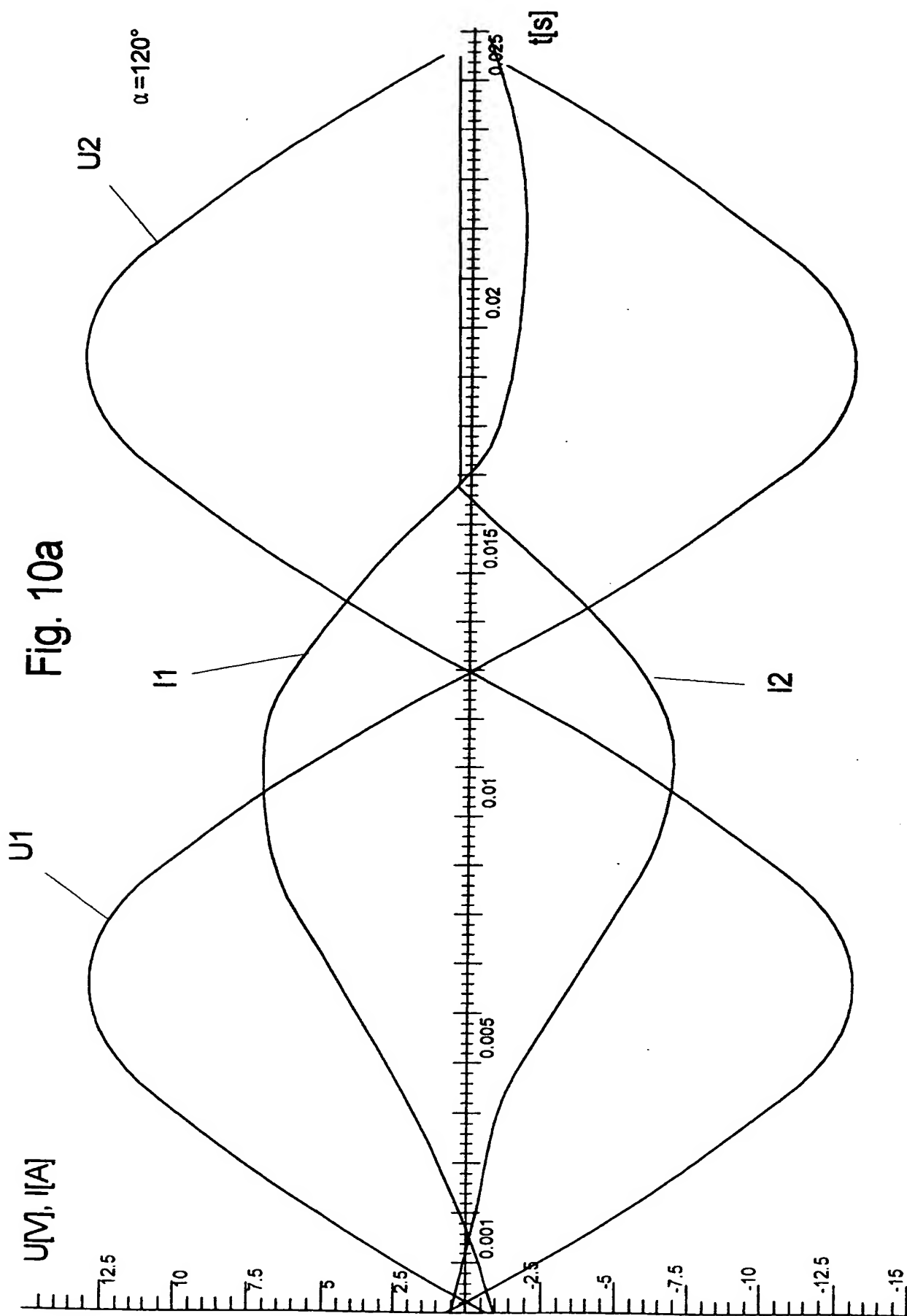


Fig. 9b







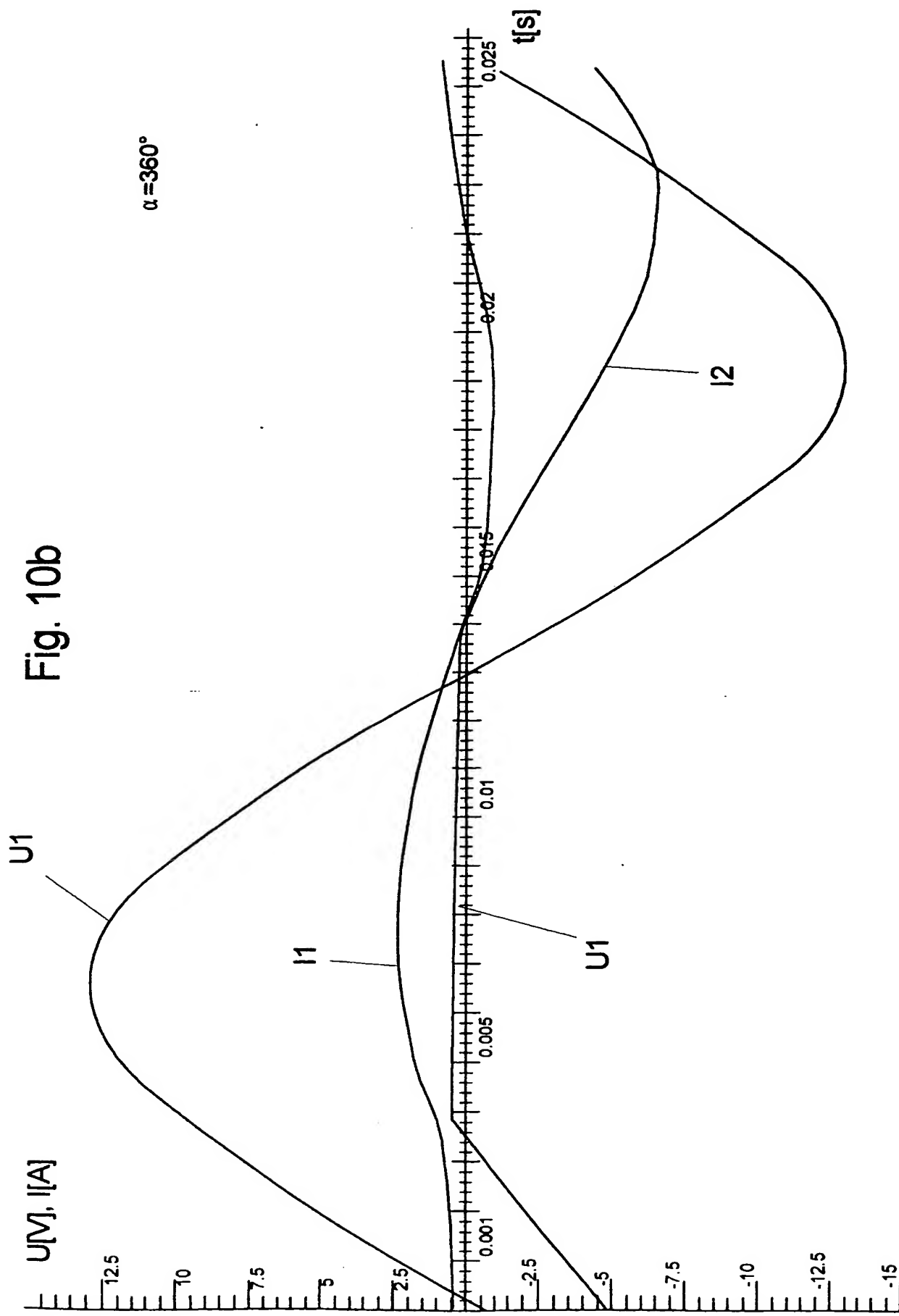
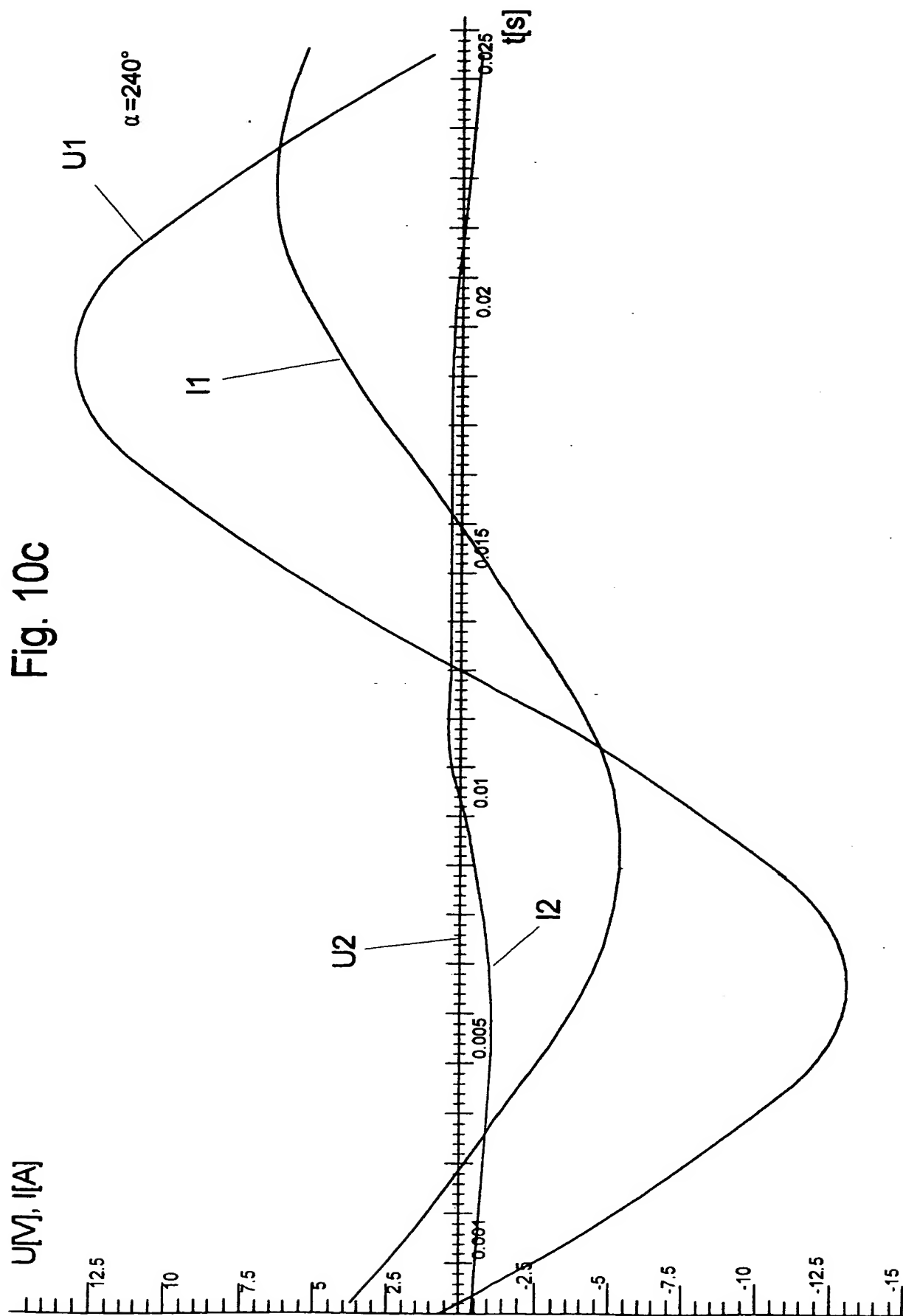


Fig. 10b



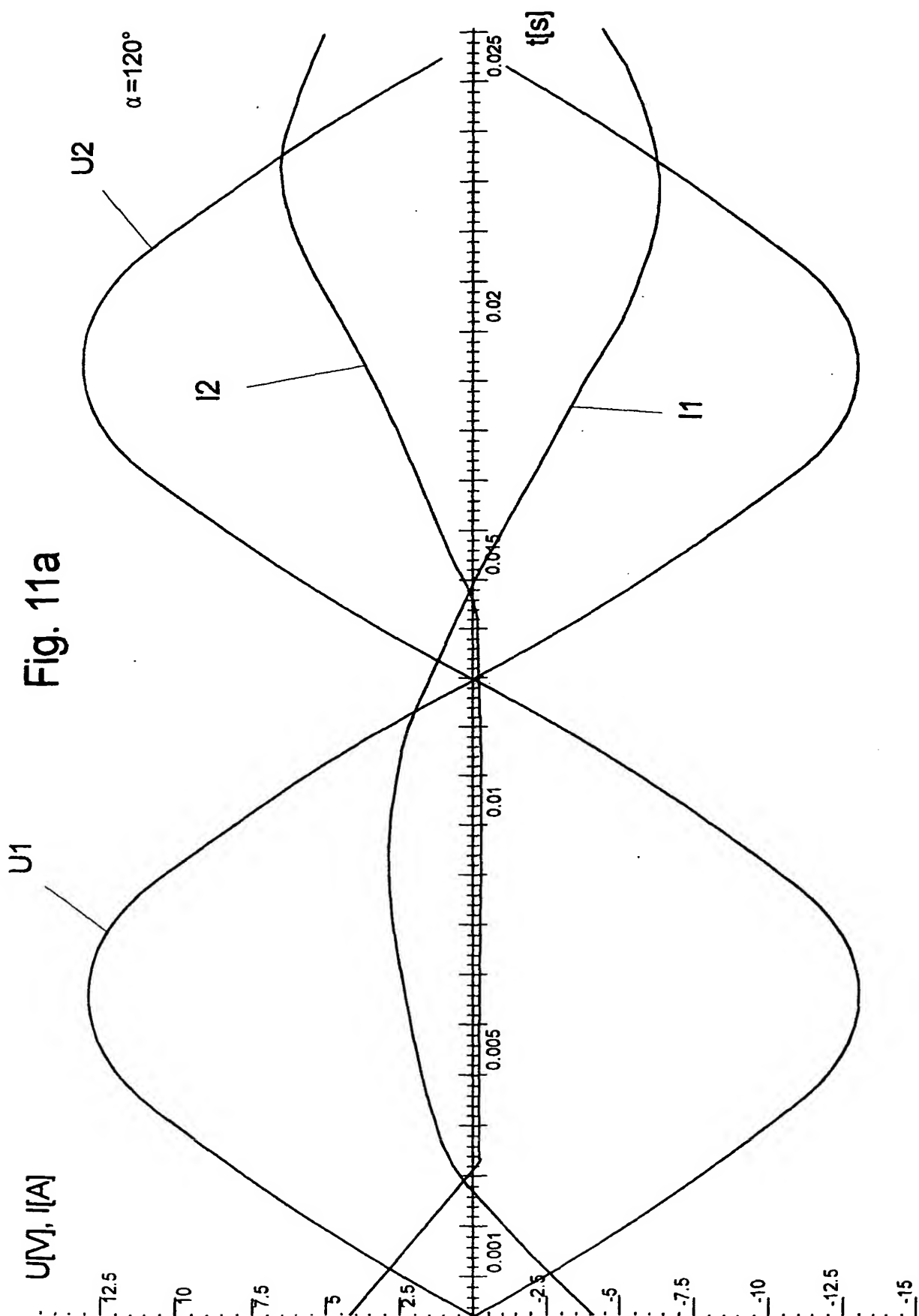
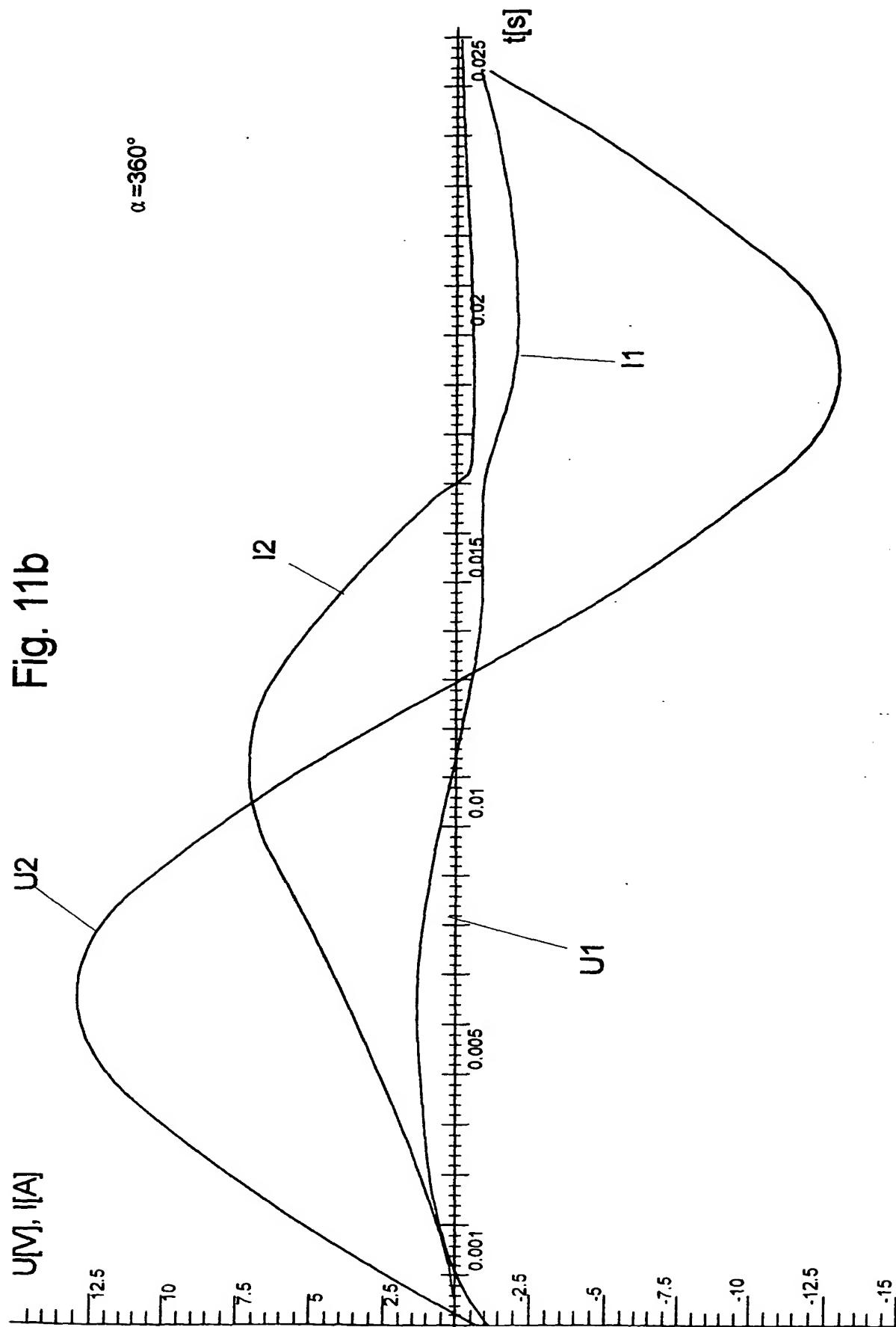
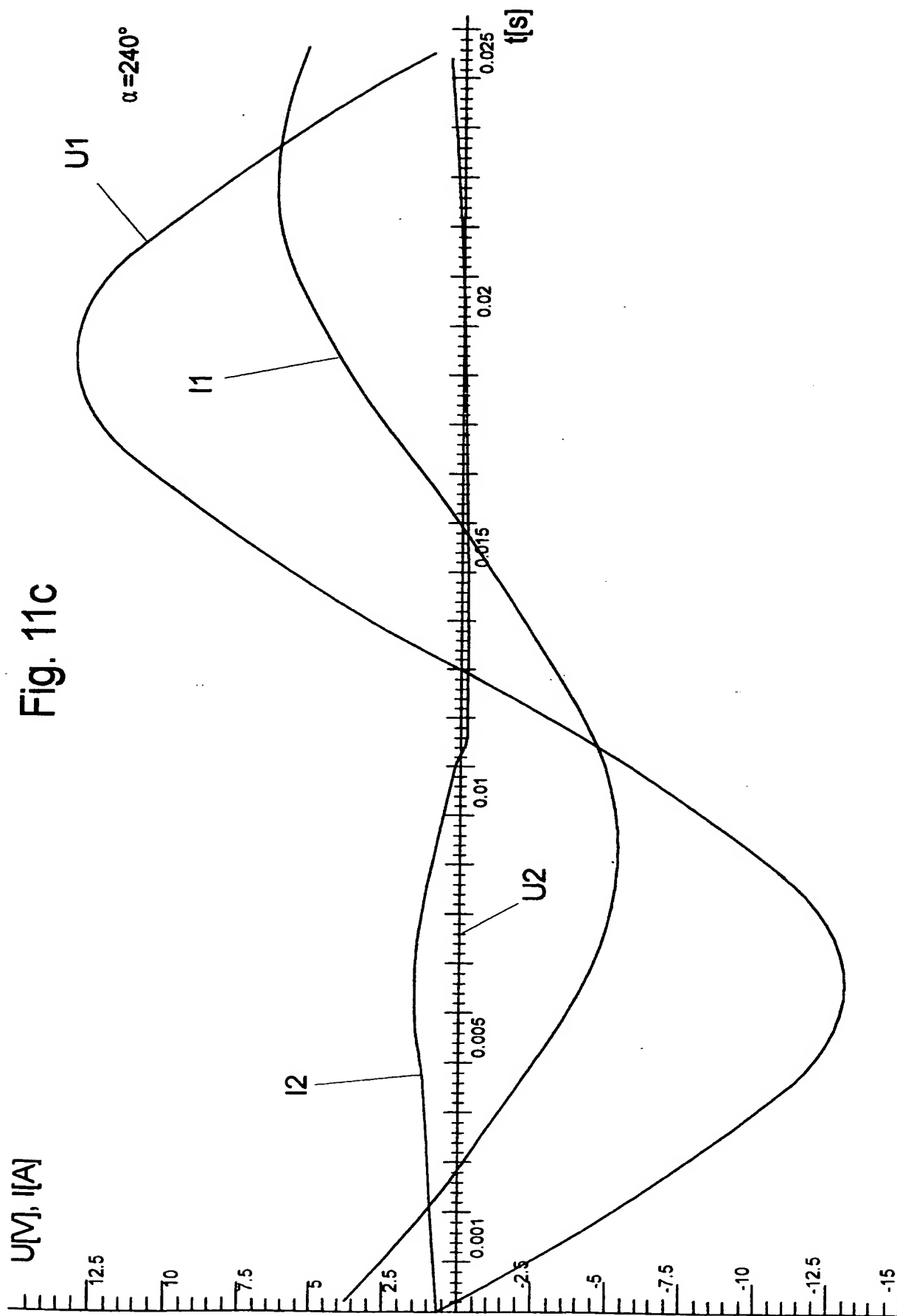


Fig. 11a





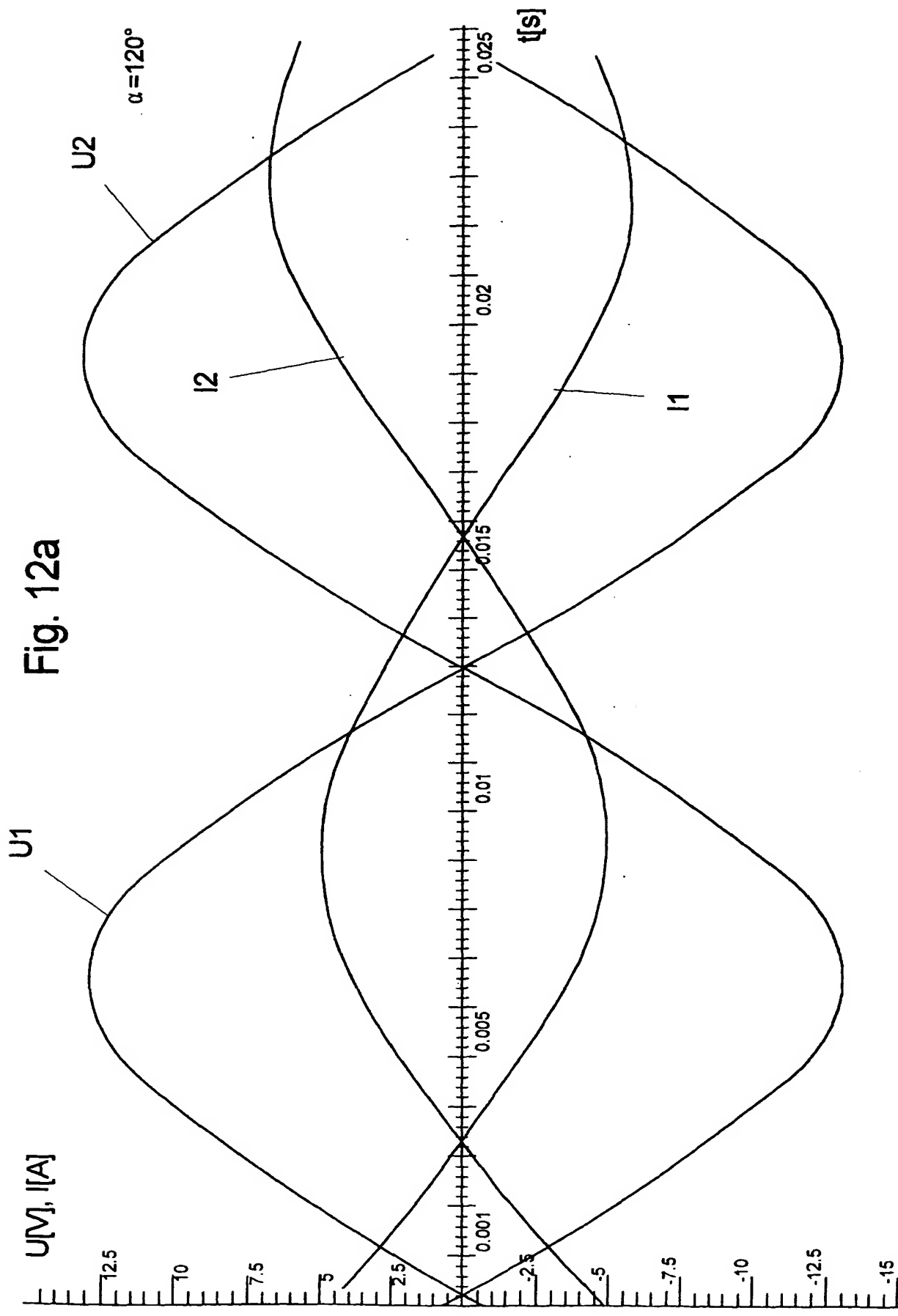


Fig. 12a

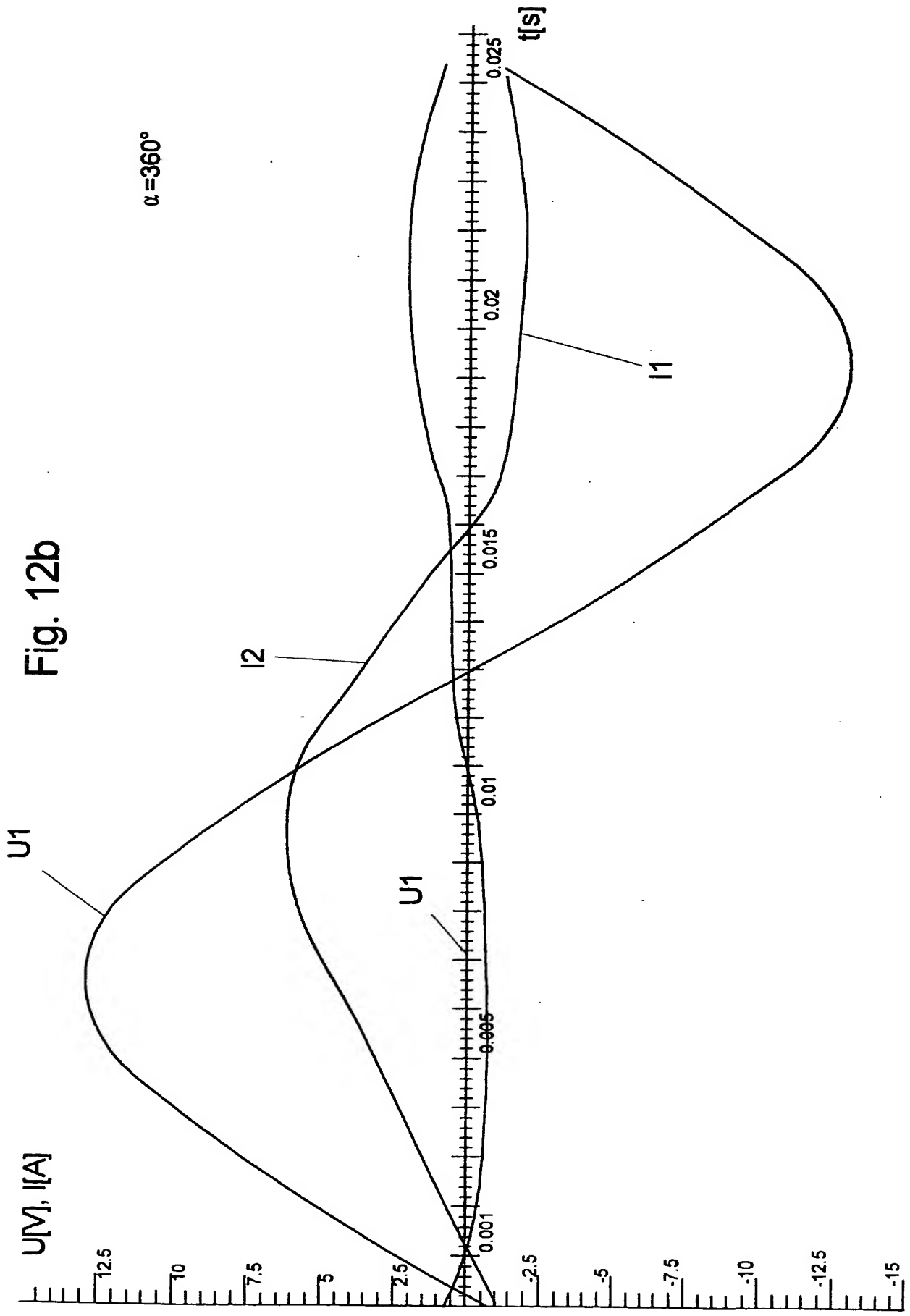
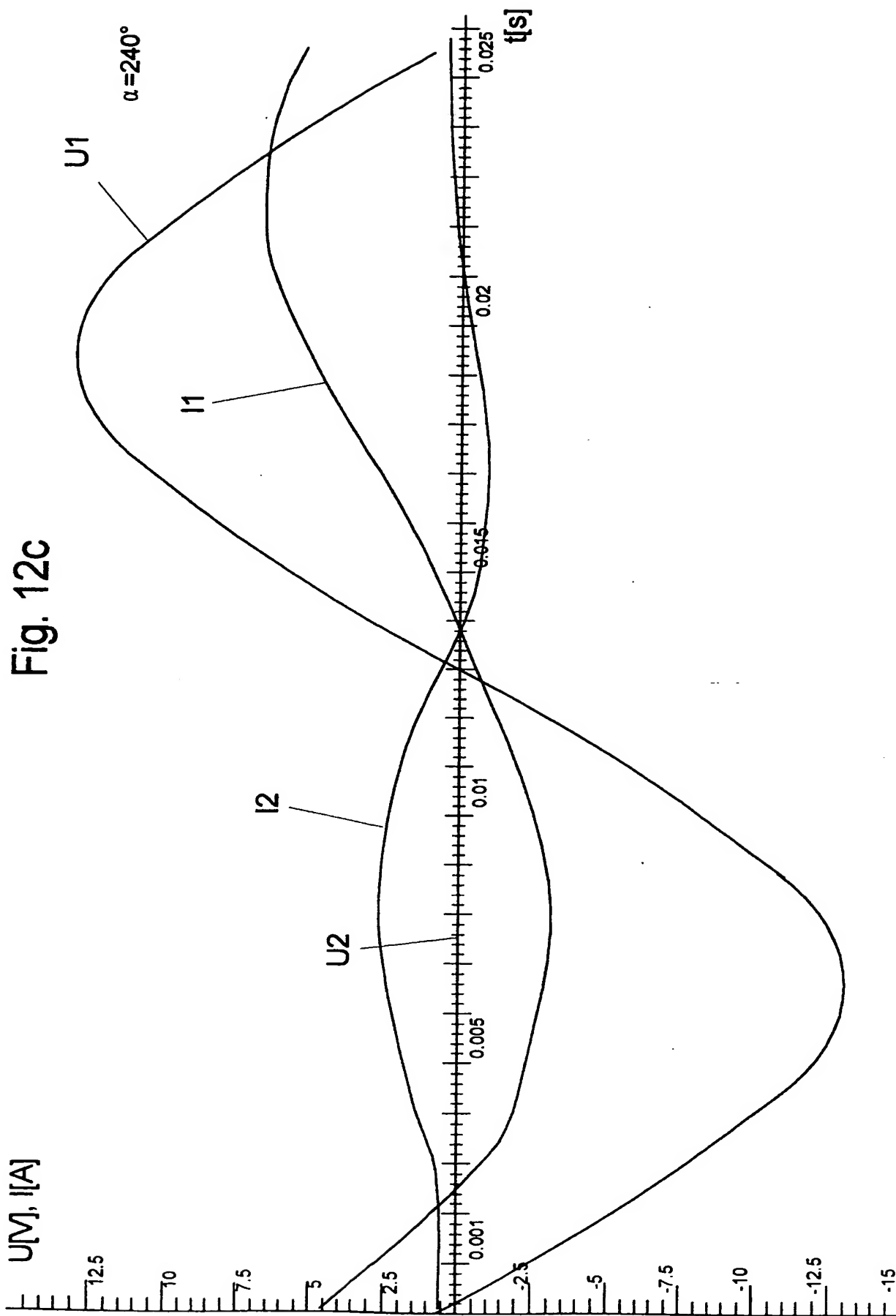
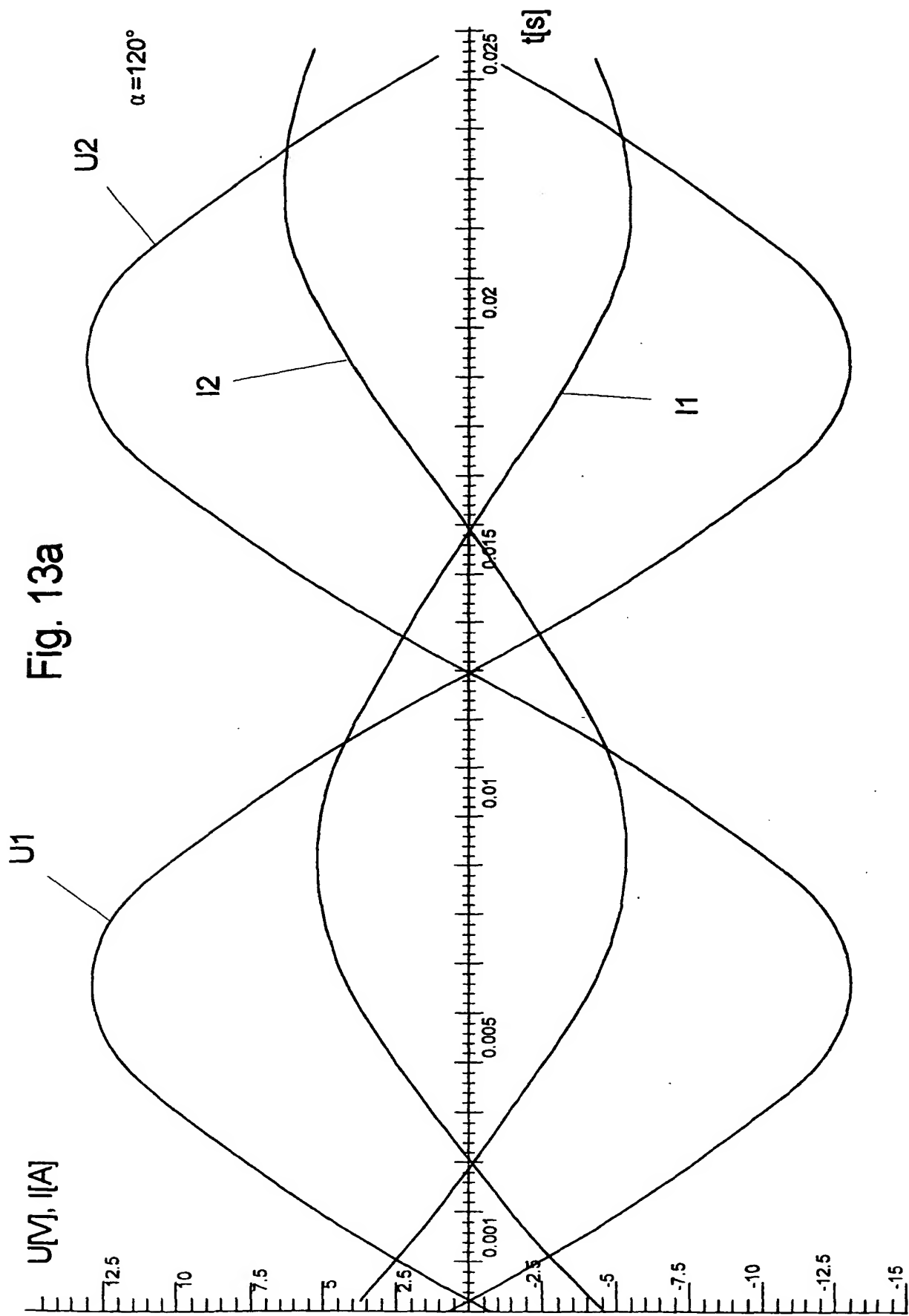


Fig. 12b







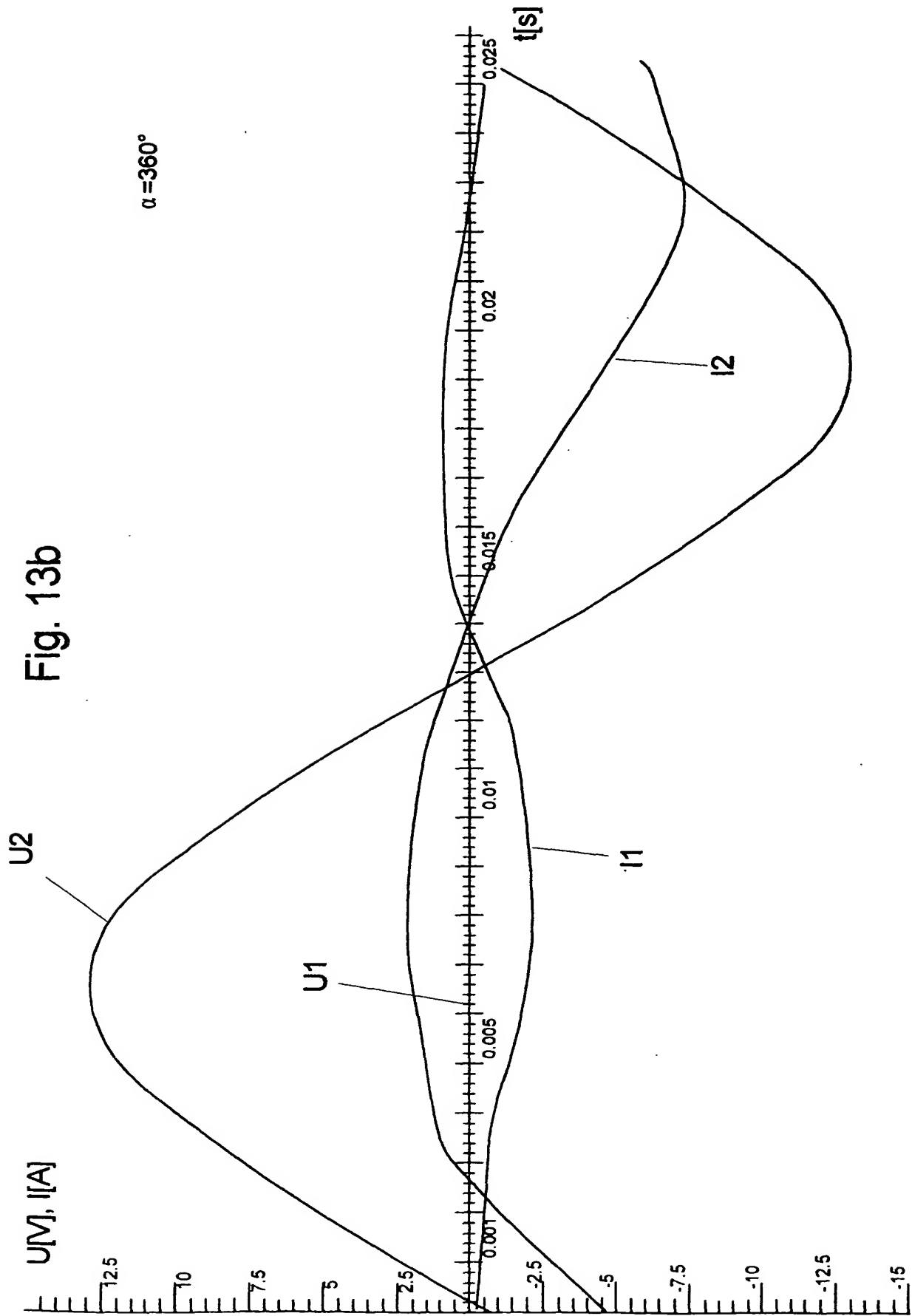
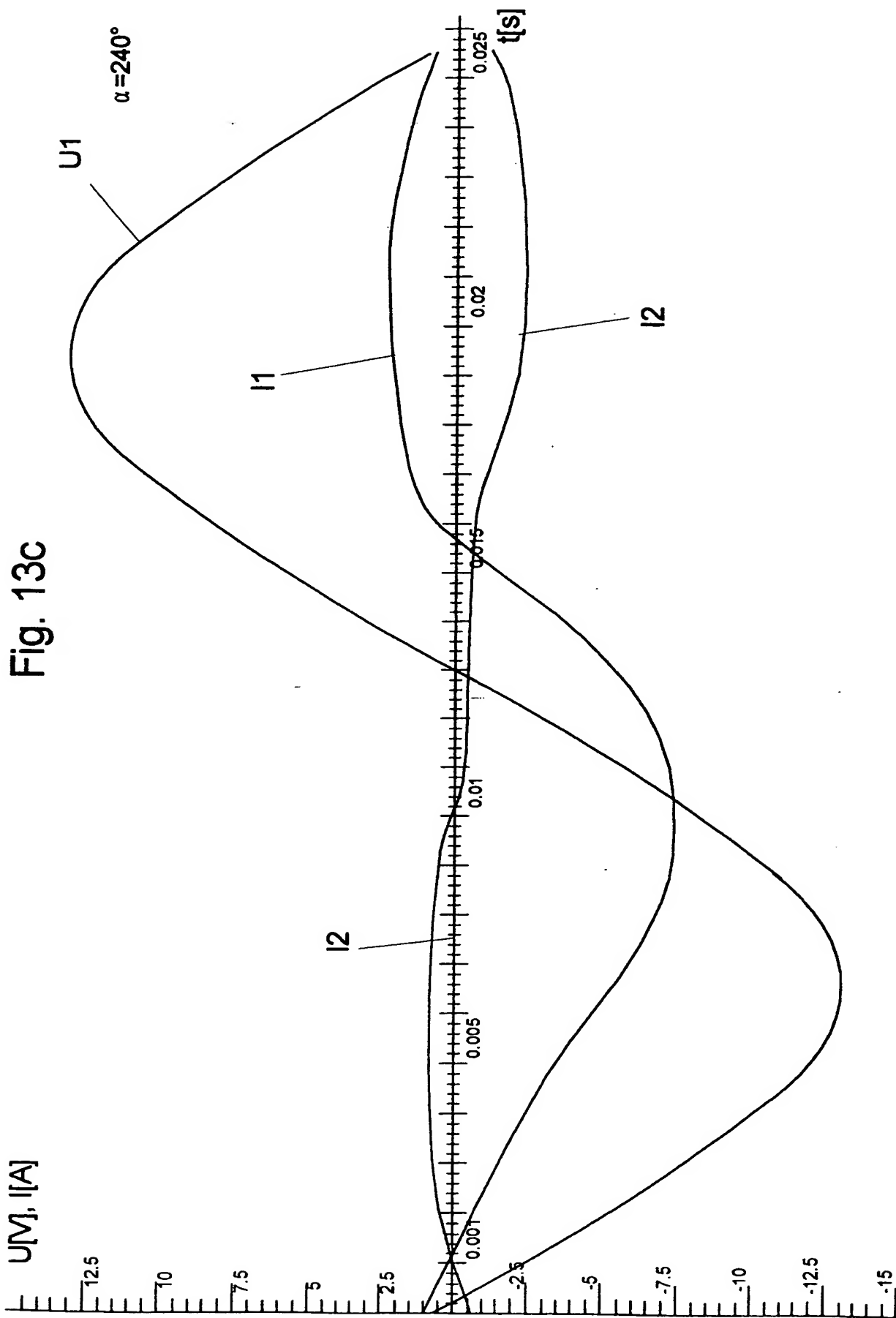
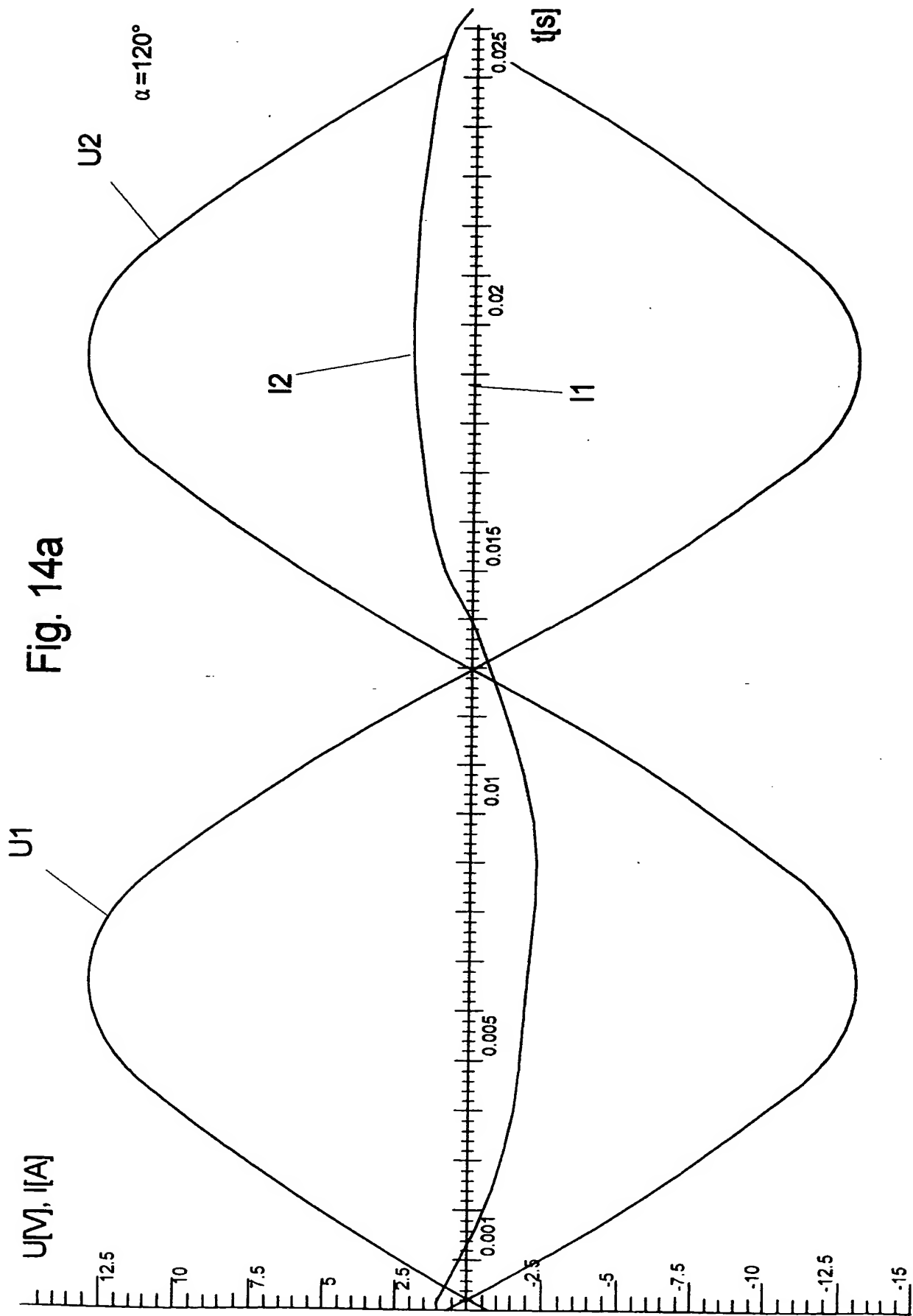
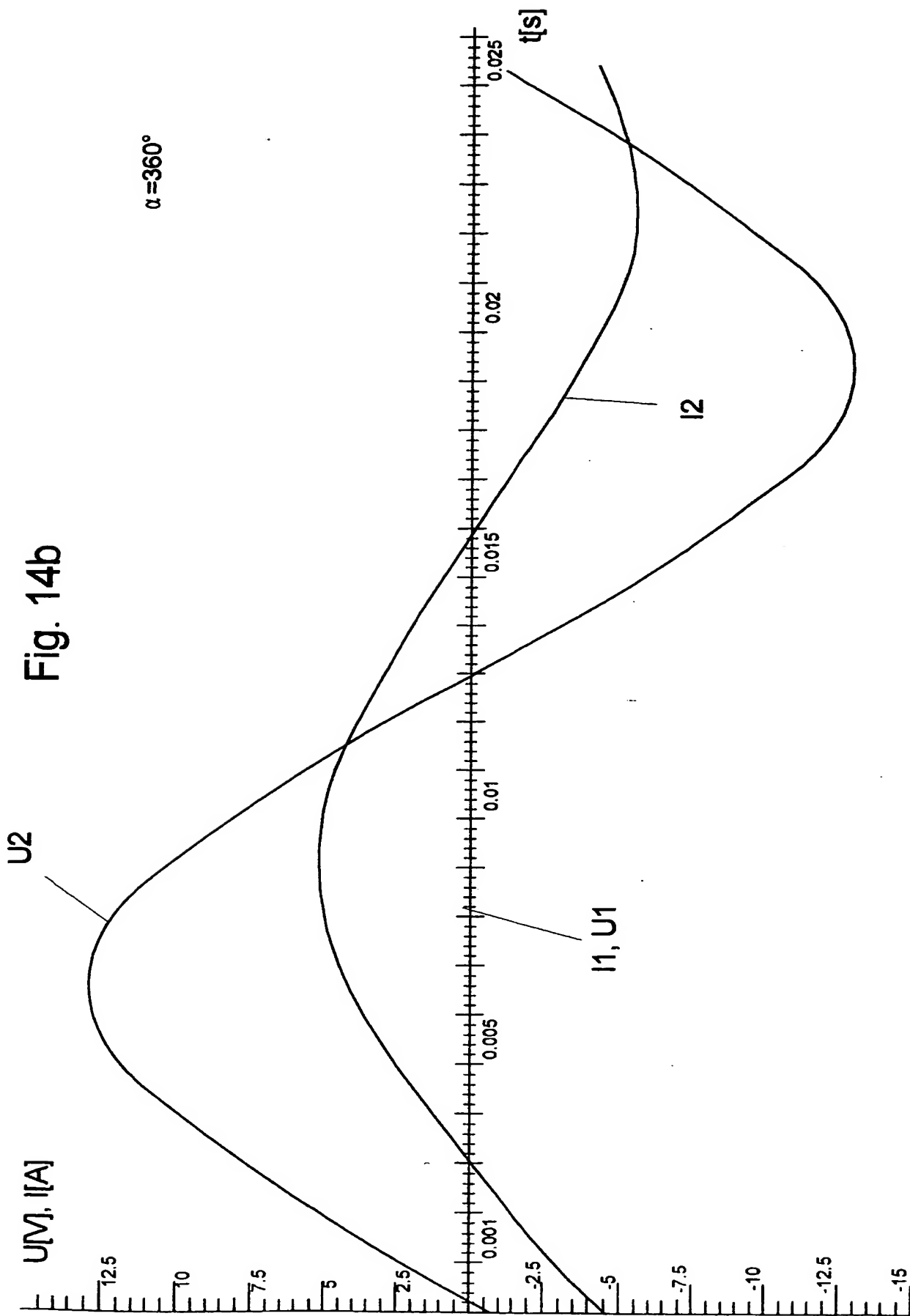
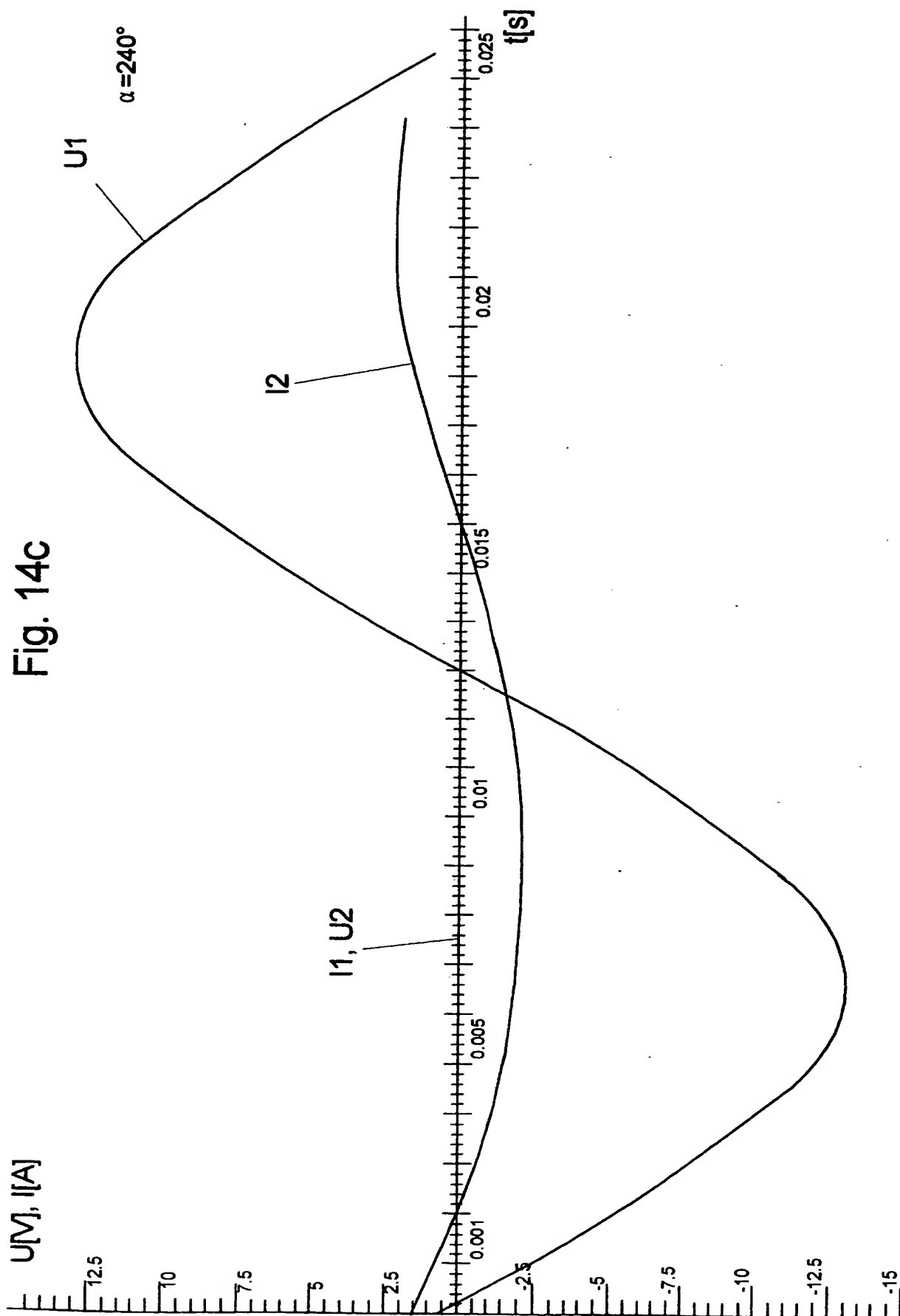


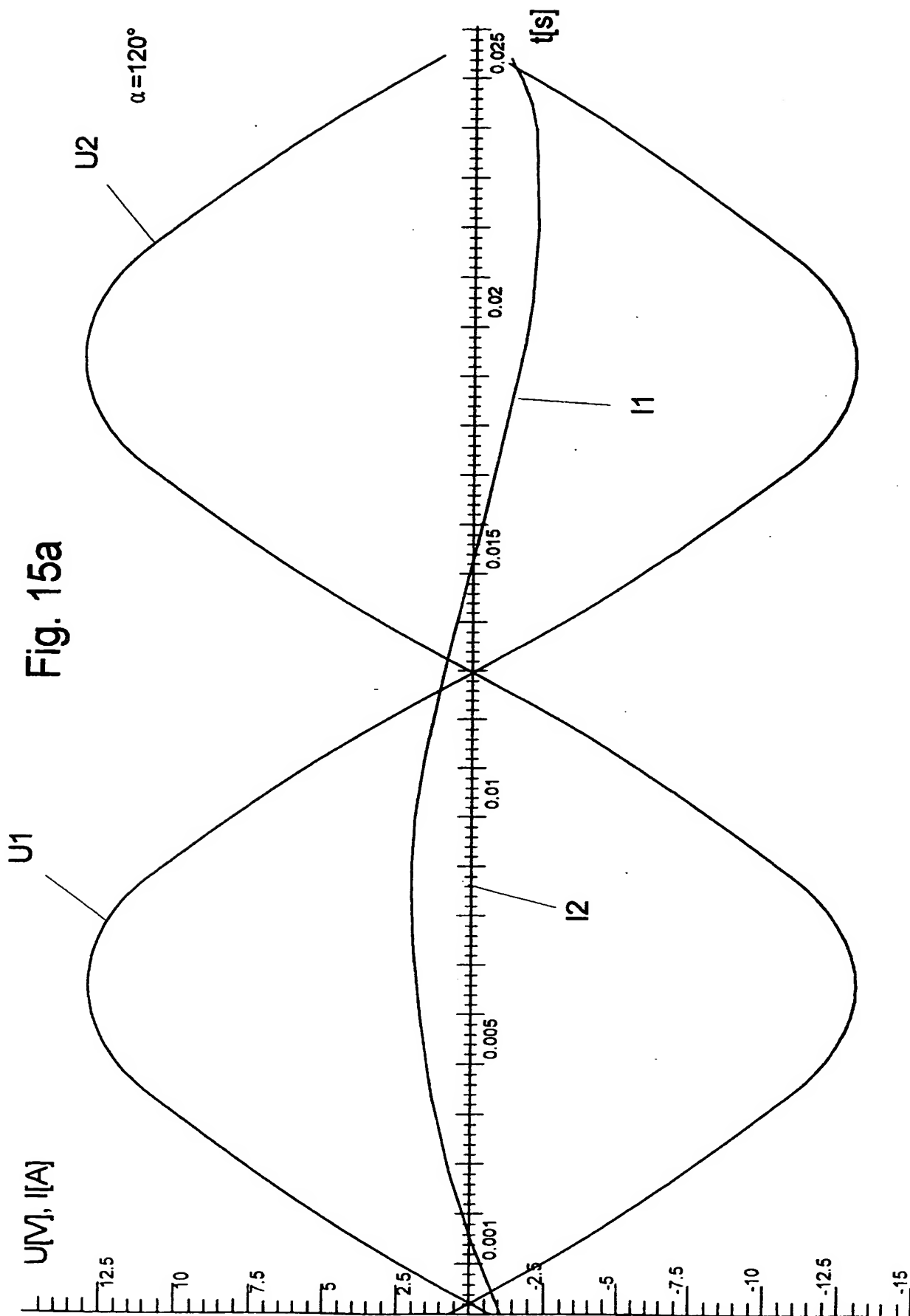
Fig. 13b











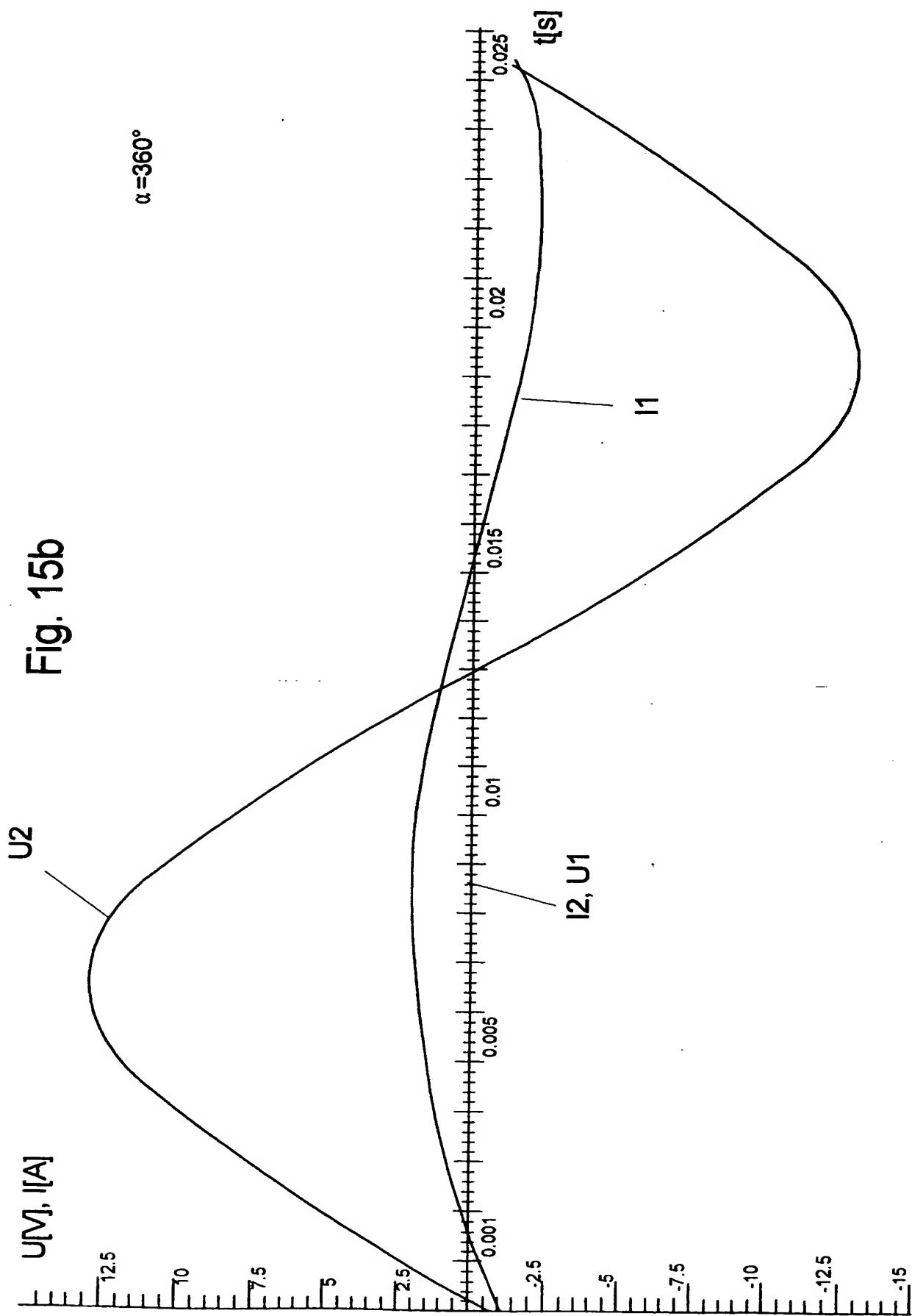
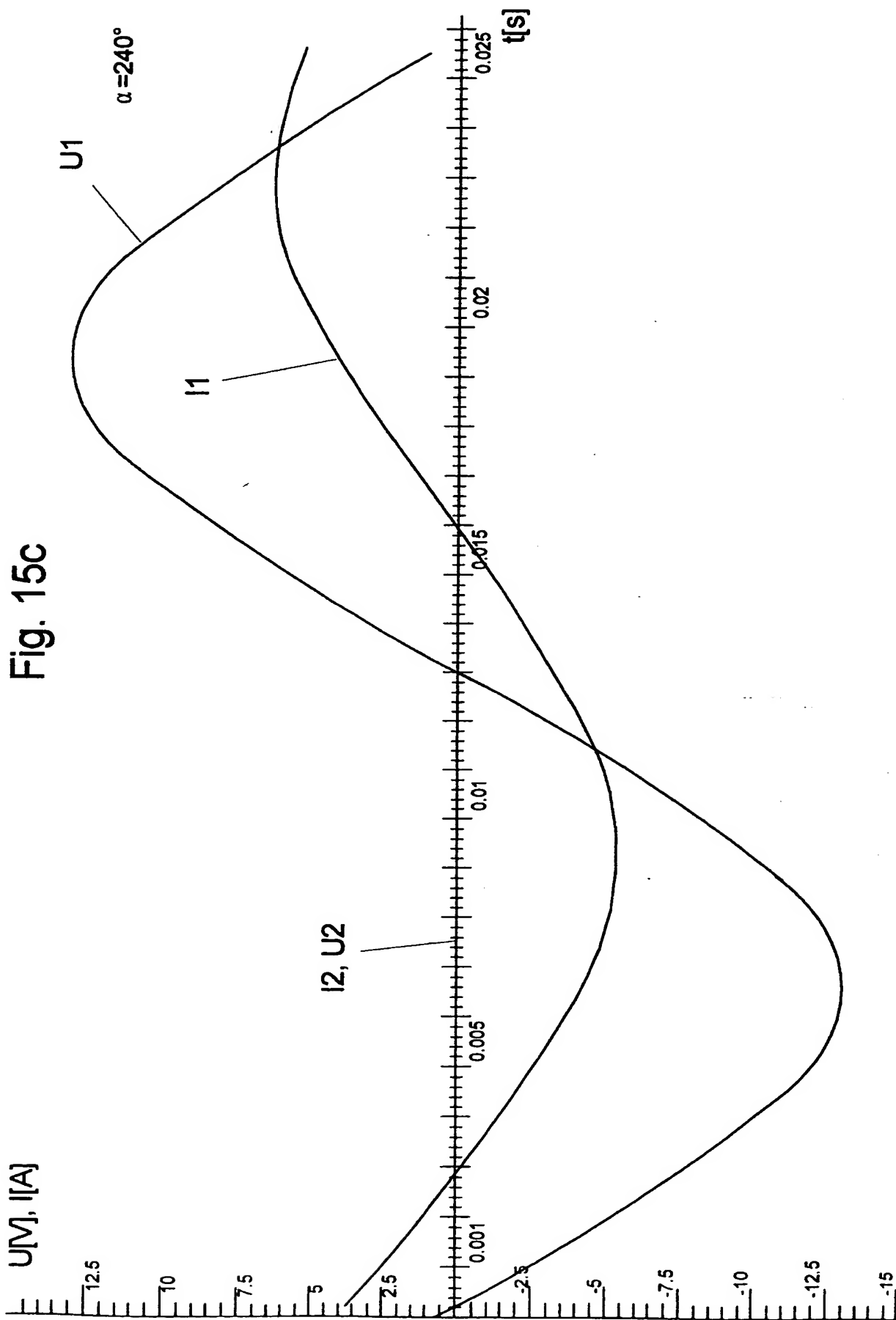
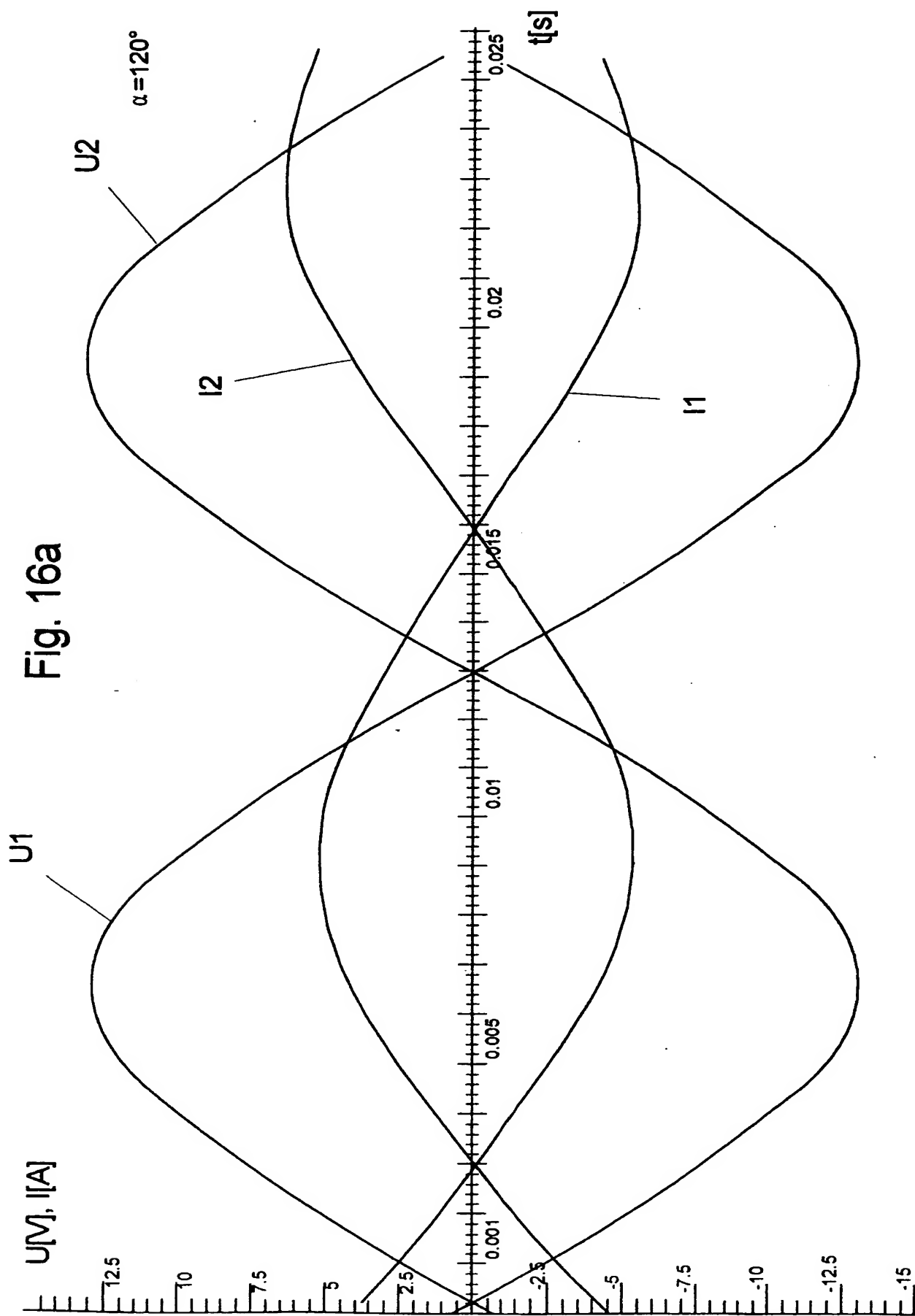


Fig. 15b







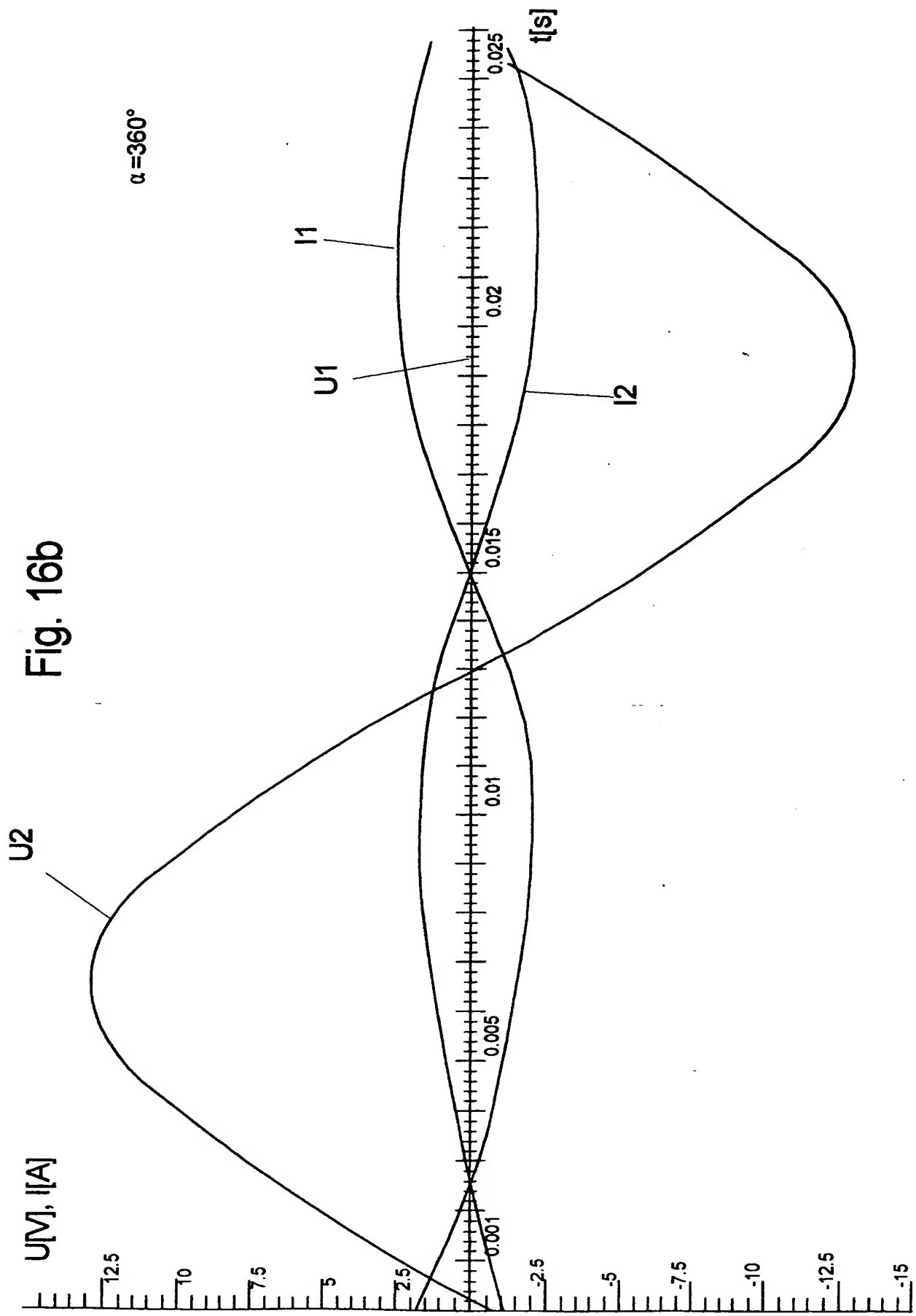


Fig. 16b

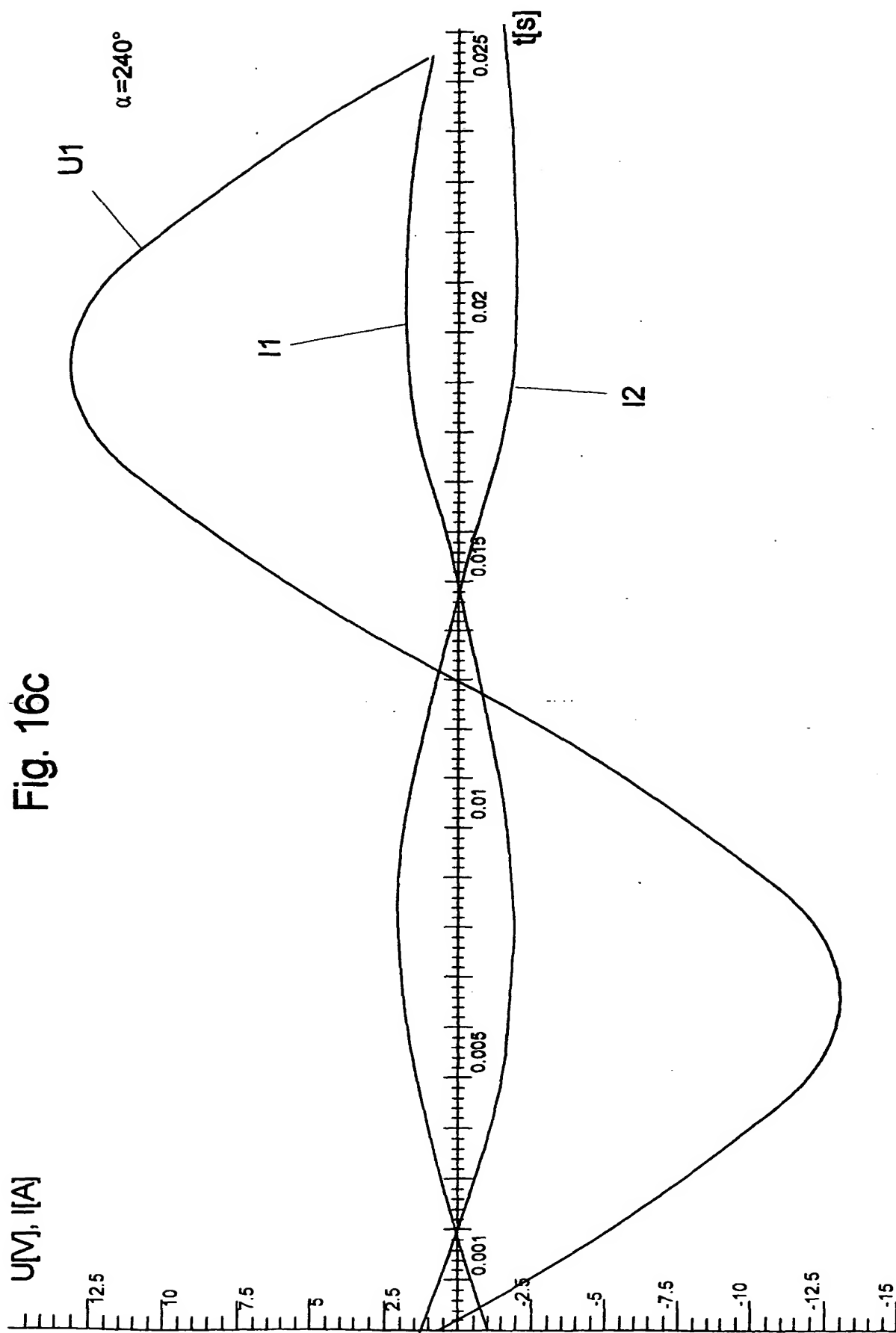


Fig. 17

	Measurement Step 1	Measurement Step 2	Measurement Step 3	Result
U1	U	-U/2	-U/2	
U2	-U/2	U	-U/2	
U3	-U/2	-U/2	U	
-ERR	1	1	1	No short circuit
	0	0	1	No short circuit Phase 11-12
	0	1	0	No short circuit Phase 11-13
	1	0	0	No short circuit Phase 12-13
	0	0	0	Perform test for line to ground fault

Fig. 18

